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ABSTRACT

In an effort to address the costs incurred by declining enrollments while still maintaining quality education, 2 small Iowa school districts explored 84 sharing alternatives. The utility (fitness/usefullness) of each alternative was rated by the school board, school staff, and a community sample from each district via a specially constructed survey. Utility was measured in terms of: (1) educational quality; (2) cost effectiveness; (3) community acceptance; (4) efficient utilities usage; and (5) implications for staff. The most favorable ratings were evidenced for sharing a gifted and talented program and a vocational/agriculture farm management program; the most unfavorable ratings were evidenced for athletic programs and the sharing of specific staff (custodians, secretaries, etc.). The utility measures used in the study were completely the results of judgments by various groups regarding the relative importance of key attributes and the relative benefits of sharing alternatives in terms of those attributes. Thereby, each district was given a means of selecting sharing alternatives satisfying to the groups affected. It was concluded that the data could be used as a basis for negotiating which sharing alternatives to pursue. (AN)

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June 20, 1980

RESEARCH AND EVALUATION REPORT

Title: AN EXPLORATION OF INTER-DISTRICT SHARING ALTERNATIVES

FINAL REPORT

Prepared for: BELLE PLAINE AND HLV

U S DEPARTMENT OF HEALTH EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

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AN EXPLORATION OF INTER-DISTRICT SHARING ALTERNATIVES

FOR

BELLE PLAINE AND HLV

FINAL REPORT

Preface

The Grant Wood AEA Board of Directors on March 20, 1978 authorized a Task Force to study the effects of declining enrollments in local school districts in Area X. The impetus for this authorization came from the fact that enrollments were declining at the rate of 2.5% per year and that eight districts in the area had fewer than 500 students. Also, the state legislature had, through H.F. 2359, mandated that "area education agency boards shall develop detailed studies and surveys of the school districts within the area education agency and all adjacent territory for the purpose of providing for reorganization of school districts in order to effect more economical operation and attainment of higher standards of education in the schools." The mission of the Task Force on Declining Enrollment was to pull together information on problems created by declining enrollments, identify alternative solutions, and support whatever cooperative efforts between local educational agencies and/or between local educational agencies and the area education agency that can be taken to resolve the problems. The Task Force included local superintendents, local board members, AEA staff and an AEA board members. This study conducted by the Grant Wood AEA Research Department, is an outgrowth of this Task Force.

The initial task authorized by the Task Force, and conducted by the Research Department, was the collection of comparative local district data. Statistics on enrollment, personnel, curriculum, transportation, and existing cooperative programming was reported for each district in Area X. The district data was compared to data from other districts in six district geographical clusters. The district clusters generally correspond to the groupings of districts which GWAEA Board Members represent. During the spring of 1979,

presentations of this comparative data were made to the superintendents of each of the six district clusters, including districts not in Area X but contiguous to its boundaries. The purpose of these cluster presentations was to generate discussion regarding inter-district cooperation to offset effects of declining enrollment.

On September 20, 1979, a "Pilot Cluster" and a "Secondary Cluster" was identified by the Task Force. The Pilot Cluster involved the districts of HLV and Belle Plaine. The sharing study reported here is based on data obtained from the Pilot Cluster. HLV and Belle Plaine were chosen as the Pilot Cluster primarily because of their previous cooperation and their strong and established commitment to continued cooperation. The Secondary Cluster included nine districts in the northern part of the Grant Wood area. These districts include Alburnett, Center Point, Central City, Monticello, North Linn, Shellsburg, Springville, Urbana, and Vinton. These districts were identified because of their great enthusiasm and expressed need for future cooperative programming. Due to lack of resources, it was decided not to work closely with these districts until the 1980-81 school year. At the beginning of the 1980-81 school year, specific directions will be solicited from these districts to assist them with cooperative programming.

A meeting with the Secondary Cluster was held on February 7, 1980. This meeting was designed to inform the Secondary Cluster superintendents of the research activities being conducted with the Pilot Cluster. Also, specific sharing possibilities between the Secondary Cluster districts were identified and discussed. The sharing alternatives that generated the greatest interest among the superintendents were in the areas of Physics, Vocational Agriculture, Wrestling and Football, Industrial Arts, Auto Mechanics, Foreign Language and shared transportation to Kirkwood for vocational programs.

There has been initiative taken by districts other than the Pilot Cluster and the Secondary Cluster regarding inter-district cooperative programming that was stimulated in part by the actions taken by the Declining Enrollment Task Force. Lone Tree and Iowa City, for example, have discussed various possibilities for sharing. Also, the Mid-Prairie School District has established their own Task Force to study, among other things, inter-district sharing. This decision followed a presentation made by the GWAEA Research Department to the Mid-Prairie Board regarding a proposed facility study, including a sharing study similar to the Pilot Cluster Study.

Norway and Amana have pursued sharing programs in the past and in connection with inter-district cooperation possibilities have requested updated curriculum data from the Research Department comparing the two districts. Both Olin and Midland have indicated a desire to share with one another. Linn-Mar and Marion, with the initial assistance of the Research Department, have been involved in inter-district cooperation for a number of years.

A presentation detailing the purposes and procedures followed in this sharing study was made to a consortium of Iowa Educational Researchers in Des Moines on April 30, 1980. As a result of this presentation, interest was expressed by researchers in AEA 1 to duplicate this study in that area.

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1. Overview Summary

The current and projected effects of declining enrollments necessitate that school districts explore various means of holding down costs while at the same time maintaining and enhancing the education offered. An attractive means of accomplishing this ever difficult task is for school districts to share certain educational programs, personnel, equipment, materials, facilities, etc. with other nearby local districts. In this study the Belle Plaine and HLV school districts, for purposes of future planning, explored 84 sharing alternatives suggested by the school boards and staffs of both districts.

This was done by examining the utility that each sharing alternative was expected to have for the district as judged by three groups in each district; the school board, the staff and a community sample. The utility measure used combined importance ratings for five key areas of consideration - Educational Quality, Cost Effectiveness, Implications for Staff, Community Acceptance, and Efficient Facilities Usage - with ratings of each alternatives benefit under each of these areas. All the ratings of importance and benefit from which utilities were calculated were obtained on March 1980 from group administrations of a survey specially constructed from the sharing suggestions made in both districts.

The pattern of importance ratings which figured prominently in the calculation of utilities were examined prior to the analysis of the utilities themselves. It was found that the primary source of difference in the importance rating pattern was the way in which the staffs in both school districts rated the importance of "Implications for Staff." As one might expect, the staff generally attributed much greater importance to this variable than either the board or the community.

The results of anayzing the utilities for each group indicate two general areas where sharing is viewed quite favorably by the groups considered. These general areas are Programs for Students with Special Needs and Vocational/Technical Programs. Moreover, the sharing of personnel to staff these types of programs was seen as the most desirable approach to sharing in these general areas. In particular, sharing a Building Trades Program appeared to be the best sharing alternative to consider since its group average utility was high and there was clear agreement across all six groups surveyed. Sharing a Gifted and Talented Program was the alternative that had the greatest group average utility and sharing a Vocational Agriculture/Farm Management Program also ranked high in terms of perceived usefulness.

Those sharing areas which were least desirable in terms of their perceived utility were also considered, and there was much closer agreement between groups regarding low utility alternatives. The two general areas in which sharing is least advisable are sharing Athletic Programs and sharing specific personnel. Actually, all sharing ideas suggested in the Athletic Programs area were consistently ranked low. For the Specific Personnel area sharing secretaries, cooks and custodians were consistently seen as poor sharing possibilities across all six groups.

Finally, it should be emphasized that the utilities used in this study are completely the results of judgments by various groups regarding the relative importance of key attributes and the relative benefit of sharing alternatives in terms of these attributes. The objective was to explore a wide range of alternatives in a systematic and objective way and to identify

areas and specific sharing options which should be given greatest consideration for sharing, or conversely to eliminate sharing possibilities which are not worth further consideration. The practical matters of implementation such as scheduling, contractual arrangements, transportation, amount of money saved, who does what, when and where are not considered here in any direct fashion, and these are obviously things which need to be carefully look at if and when districts decide to move into the implementation stages. However, with respect to implementation, this study by looking at utilities for each group does allow the school district a means of selecting sharing alternatives which are basically satisfying to the primary groups affected. Moreover, the data presented in this study could be used as a basis for negotiating, either between districts or between groups, which sharing alternatives to pursue.

2. Rationale For Study

The problem of declining school enrollments is one currently being faced by school systems all over the country. Since schools receive funds based upon the number of students enrolled the obvious effect of declining enrollment is that there is less money available for schools to operate on. Not only does this mean that education cannot be upgraded and enhanced in the standard budget increasing fashion, but it usually means reductions in personnel, equipment, material, and/or the number of operating attendance centers. For smaller districts where budgets have long since been trimmed these problems are compounded. In short, the current and projected effects of declining enrollments necessitate that school districts explore various new means of holding down costs while at the same time maintaining and enhancing the education offered in their school systems. One relatively attractive means of achieving this ever difficult objective of maintaining and/or enhancing education without increasing costs is for local school districts to share with other local districts certain educational programs, personnel, equipment, materials, facilities, etc.

Districts considering sharing face three basic questions, namely, share what? with whom? and how? Since anything but very general answers to the last question depend upon answers obtained for the first two, initial exploration of the sharing alternatives that exist for a district or a cluster of districts logically should concentrate upon the question share what? and with whom? Of course, the general answer to the question "with whom?" is with neighboring or near by districts due to practicality and logistics. However, meaningful answers to both the "share what?" and "with whom?" questions depend upon the utility each district involved expects to obtain by sharing any given alternative.

The utility of any given sharing alternative refers to the total benefits, the total value, the total usefulness, of that alternative to the school district. But the benefits derived from any given sharing alternative may come in different forms since any given sharing alternative effects the district in different ways. For example, a given sharing alternative may have great benefit in terms of the enhancement of educational quality in the district but little benefit in terms of cost effectiveness. Thus in exploring sharing alternatives the basic or major ways in which the set of all alternatives to be considered could yield benefit for the district should be taken into account. But these basic sources of benefit may not have equal importance. For example cost effectiveness may be viewed as more (or less) important than educational quality by a given district. Where this is the case benefits that are perceived to exist in terms of cost effectiveness should be given different weight than those benefits perceived to exist in terms of educational quality. Hence the utility of a given sharing alternative for a given school district, or more generally any given group, is more specifically defined as the total sum of weighted benefits. For example, the sum of benefits perceived to exist in terms of cost effectiveness weighted by the relative importance of cost effectiveness to the district plus the benefits perceived to exist in terms of educational quality weighted by the relative importance of educational quality to the district plus other similarly weighted benefits would equal the utility of the alternative.

In exploring sharing alternatives by investigating their relative utility, the question of "whose utility?" usually arises. Is it the superintendents estimate of utility, the teachers, the students, the parents, the general communities? Any given segment of the school district's population may well perceive any given sharing alternative differently than another group

within the district. A given group may perceive benefits differently than another; or, what is perhaps more likely, they may attach different weights to the kinds of benefits expected. Thus in exploring a district's sharing alternatives it is desirable to take into account the perhaps differing utilities of the major groups eventually affected by the sharing alternatives being considered.

Using the concept of utility the questions "share what?" and "with whom?" may be answered in a relatively straight forward fashion. That alternative which a district should seek to share is that alternative which is believed to produce the greatest utility for the district taking into account the various segments in the district. The "share with whom?" question may be answered by determining which of the other districts similarly see high utility in the same sharing alternative. Where districts or groups have no clear cut alternatives indicated by consistently high utility, the utility that does result for given alternatives as perceived by various groups or districts involved may serve as a base for negotiation.

With respect to future planning the two school districts of HLV and Belle Plaine (BP) are interested in exploring a wide range of sharing alternatives. The purpose of this study is to facilitate this exploration process in a systematic and objective manner. This will be done by examining the estimated utilities that the different groups and districts have for the various sharing alternatives available in accordance with the general rationale provided above. Based upon these utilities, a rank ordering of all the sharing alternatives considered will be provided to identify those sharing alternatives which are most feasible to pursue as well as to identify those that are not worth further consideration.

3. Identification of Survey Components

The first step in the study was to identify the sharing alternatives that existed as well as the basic ways in which any sharing alternative could benefit the district. This was accomplished by first meeting with the administrative staffs of the two school districts and putting together two listings, one of the sharing alternatives suggested and another of the benefit classifications that were suggested. Each list was then taken to the school boards and the teaching staffs of both districts where additional suggestions were added. The two resulting lists were then used to construct a survey designed to assess the perceived relative utility of the sharing alternatives taking into account the various classifications of benefit suggested.

The list of benefit classifications was relatively short, containing essentially five basic ways in which sharing could benefit the district. These five ways are referred to as the attributes of the sharing alternatives. These attributes were Educational Quality, Implications for Staff, Cost Effectiveness, Community Acceptance, and Efficient Use of Facilities. Descriptive definitions of each of these attributes are provided on page 2 of the survey (Appendix I).

The list of sharing alternatives numbered well over 100. Often several of these alternatives would be related to a specific program; for example, sharing a special education program, sharing special education materials, sharing a special education classroom, sharing a special education teacher, etc. In reducing the number of alternatives to a manageable quantity, alternatives were classified by the general type of program indicated. This resulted in six general program classifications and two additional classifications not necessarily related to any program type. These last two categories were "Specific Facilities/Equipment/Materials Sharing Suggestions" and "Specific

Personnel Suggested for Sharing". The six program area classifications were "Academic Programs", "Vocational/Technical Programs", "Programs for Students with Special Needs", "Service Programs", "Athletic Programs", and "Fine Arts Programs". For each of these six program areas there were three program sharing approaches suggested - namely, sharing teachers, sharing materials and equipment, and sharing facilities. After laying out the reduced list of sharing alternatives in this fashion it was discussed with the school district superintendents to insure that the list did not contain clearly impossible to implement alternatives, to insure that there was no duplication in alternatives, and to insure that the reduction used did not over-simplify any important alternatives. The final list of classified sharing alternatives was then used to construct the major part of the survey. (See Appendix I, pp. 3-8 of the survey.)

The survey was administered to the school boards, the staffs and the parents in each school district. All board members and all staff members (except for a few absences) were administered the survey. While all parents were informed, the community sample is made up of those who volunteered to take the survey. The exact number in each group are shown in table 1.

Because of its length and relative complexity, the survey was administered to each group in each district orally. Also primarily to neutralize the possibility of effects associated with length and order two forms of the survey were used. The difference in these two forms was simply a reverse ordering of the last 6 pages of the survey (see Appendix I). In handing out the surveys at each administration, forms were alternated so that any two consecutively obtained forms should have been different. The exact number of each form administered in each district is shown in table 2.

All surveys were administered to each of the three groups in HLV on March 10, 1980, and in the same fashion to each group in Belle Plaine,

TABLE 1.

DISTRICT AND GROUP REPRESENTATION TABLE

TABLE OF GROUP BY DISTRICT

GROUP / DISTRICT FREQUENCY PERCENT ROW PCT COL PCT	BP	HLV	TOTAL
BOARD	* 7	7	14
	4.32	4.32	8.64
	50.00	50.00	
	9.72	7.78	
COMMUNITY	18	43	61
	11.11	26.54	37.65
	29.51	70.49	
	25.00	47.78	
STAFF	47	40	87
	29.01	24.69	53.70
	54.02	45.98	
	65.28	44.44	
TOTAL	72	90	162
	44.44	55.56	100.00

TABLE 2.

FORMS ADMINISTERED IN EACH DISTRICT

	BP	HLV	Total
Form 1	35	45	80
Form 2	37	45	82
Total	72	90	162

*The meaning of all cell values are analogous to this cell - e.g.

Frequency	= 7	i.e. 7 Board Members in Belle Plaine
Percent	= 4.32	i.e. 7 is 4.32% of Grand Total 162
Row Percent	= 50.00	i.e. 7 is 50% of all 14 Board Members surveyed
Column Percent	= 9.72	i.e. 7 is 9.72% of those responding from Belle Plaine (BP)

on March 13, 1980. Administrations took place in the late afternoon for staff, early evening for boards, and late evening (7:30-9:30) for parents. The survey took 60-80 minutes to complete.

In administering the survey effort was made to give instructions in the same basic way for each group. To do this an instruction outline was used during each administration. This instruction outline is provided in Appendix II. All surveys were worked through from front to back starting with reading the introductory page, then filling out the group representation page (p. 1), then providing attribute importance ratings (p. 2), and finally providing the benefit ratings (pp. 3-8) in the remainder of the survey. Both the importance and the benefit rating scales were 0 to 10, with 10 indicating extreme importance (on page 2 of the survey) or benefit (on pp 3-8 of the survey), 0 indicating no importance or benefit, and 5 indicating moderate importance or benefit. Respondents were encouraged to preserve ratios in this scaling being told, for example, that a rating of 6 indicated twice the importance (on p. 2 of the survey) or benefit (on pp. 3-8 of the survey as did a rating of 3.

4. Responses to Special Questions About the Survey

One exception to this front to back progression in the administration was that about half way through the final section of the survey, after respondents were familiar with the survey, they were asked to stop and answer 2 or 4 special questions about the survey. (see Appendix II, p. 3). All groups answered the first two questions dealing with the perceived difficulty and usefulness of the survey, and the parents additionally answered the last two which asked if they were pleased to be included in the planning process and if their spouse was present with them. The results to these questions about the survey and the conditions of the survey are summarized in table 3.

TABLE 3.

RESPONSES TO STATEMENTS ABOUT THE SURVEY

		Number of Responses	Mean Responses	Standard Deviation
This survey was difficult for me to respond to.	BP Board	7	3.571	1.397
	BP Community	18	4.333	0.907
Scale: 1. Strongly Disagree	BP Staff	47	4.915	0.351
2. Disagree	All BP Responses	72	4.639	0.793
3. Undecided				
4. Agree	HLV Board	7	3.000	1.732
5. Strongly Agree	HLV Community	43	3.488	1.077
	HLV Staff	40	4.275	0.877
	All HLV Responses	90	3.800	1.133
	All BP & HLV Responses	162	4.173	1.078
This survey will provide useful information for the district.	BP Board	7	3.571	1.397
	BP Community	18	3.000	1.328
Scale: 1. Strongly Disagree	BP Staff	47	1.489	0.906
2. Disagree	All BP Responses	72	2.014	1.261
3. Undecided				
4. Agree	HLV Board	7	3.714	0.488
5. Strongly Agree	HLV Community	43	3.140	1.014
	HLV Staff	40	2.650	1.075
	All HLV Responses	90	2.967	1.054
	All BP & HLV Responses	162	2.543	1.241
I am pleased that this district uses my input in its planning. (Only administered to community parent samples).	BP Community	18	3.389	1.290
	HLV Community	43	3.930	0.704
Scale: 1. Strongly Disagree	Both Communities	61	3.770	0.938
2. Disagree				
3. Undecided			(Proportion Responding No)	
4. Agree				
5. Strongly Agree				
My spouse is here with me. (Only administered to community parent samples).	BP Community	18	.667	0.594
	HLV Community	43	.186	0.394
Scale 0 = Yes (Rescaled from 1=Yes	Both Communities	61	.328	0.507
1 = No and 2=No)				

Table 3 indicates that generally the survey was perceived to be difficult to complete. Indeed this is typical of this type of survey in which responses must be given on a limited relative rating scale in terms of different attributes for any given item. Notice that the boards in each district found the survey to be less difficult than did either the community or staff groups. This is perhaps due to the fact that the board members are more accustomed to the kind of decision considerations necessitated in the survey. Also, the staff groups in each district found the survey to be more difficult than did either the community or the board. Judging from the comments and questions which arouse in administering the survey to the staff in each district, it appeared that staff members had a tendency to try and be much more specific than they needed to be, and this was quite frustrating to them. As a result, it is not surprising that they see the survey as being more difficult than do other groups.

With respect to the usefulness of the information obtained by the survey, the boards of both districts believed the survey to be more useful than did either of the other groups and the staffs believed it to be less useful than did either of the other two groups. In the case of the boards this is not surprising since they have the greatest need for this type of information. The fact that the staffs did not see the survey as very useful perhaps relates at least in part to the same factors discussed regarding survey difficulty. Obviously, this question addresses <u>expected</u> usefulness of information. Consequently, judgments could change a great deal depending upon how the districts actually do use the information. Hence, this would be a good followup question after the study results are reviewed and actually used.

Only the community groups were asked if they were pleased that their input was being used in district planning. Generally it can be seen from table 3

that both community groups tend to be mildly pleased about this. It is interesting to note that with respect to each of the three questions just discussed, each HLV group consistently gave more positive responses regarding the survey.

Finally, community samples were asked if their spouses were also present for the survey administration, so as to determine how many households were represented. Rescaling their responses to a 0 (Yes) and 1 (No) allows one to interpret the mean responses as the proportion responding no. Thus, it is seen from table 3 that out of the forty-eight persons from Belle Plaine and the forty-three persons from HLV, 66.7% from Belle Plaine and 18.6% from HLV were present without their spouse. Computing the exact number of households represented, we find that there were fifteen households represented in Belle Plaine and twenty-three in HLV.

5. Definition of Utility

In analyzing the survey data the goal is to identify those sharing alternatives which offer the greatest potential for the districts involved. This will be done by using the data collected on the surveys to determine which sharing alternatives appear to have the greatest utility for each of the six groups to which the survey was administered, and by looking for agreement among these groups regarding the anticipated utility of the various sharing alternatives.

To proceed with the analysis objective it is necessary to more precisely define utility in terms of the ratings that have been obtained. The attribute importance ratings obtained on page 2 of the survey may be symbolized as R_j, where j = 1, 2, 3, 4, 5 -- i.e. R_1 R_2 R_3 R_4 R_5. From these attribute ratings importance weightings for each column of the survey (see pp. 3-8 of the survey) are defined as

$$W_j = R_j \div \sum_{J=1}^{5}$$

or, in other words, each weight is the corresponding attribute importance rating divided by the sum total of all five attribute importance ratings. Now consider the item benefit ratings that were obtained from the filled in boxes on pages 3-8 of the survey. Each item on this last part of the survey has five boxes and hence five benefit ratings. These benefit ratings shall be symbolized as V_j where j is the column number - i.e. V_3 is the column 3 benefit rating for a given item under consideration. To express the utility of a given sharing alternative item, one wishes to weight each benefit value (V_j) with its corresponding importance weighting (W_j). Thus item utility is mathematically defined as

$$U = \sum_{J=1}^{5} W_j V_j = W_1V_1 + W_2V_2 + W_3V_3 + W_4V_4 + W_5V_5$$

Consequently, the utility (U) that a sharing alternative has under this definition is simply the sum of the five benefit ratings given an item on the survey, each weighted by the importance given to that column attribute that each of the five benefit ratings fall under. Because of our definition of weights (W_j) each utility should be on the same scale of 0 to 10 that both the attribute importance ratings (R_j) and the benefit ratings (V_j) were on.

6. Analysis of Attribute Importance Ratings

Before proceeding directly to the calculation and analysis of utilities, it is of interest to examine the pattern of attribute importance ratings that will be used in the utility calculations. Of prime interest was whether the pattern of attribute importance ratings differed by group and/or district.

To determine whether or not the pattern of importance ratings differed, a multivariate analysis of variance was carried out on the five attribute ratings as the dependent variable. The general linear models (GLM) procedure of the Statistical Analysis System (SAS) was used for the analysis calculations, as well as for all calculations used in this study. The results of this analysis are summarized in Appendix III.A. (pp.1-3). These results indicate that there is a clear difference in the pattern of attribute ratings for districts as well as for groups, and that there is no significant interaction effect, meaning that the group differences do not depend on the district but rather they are consistent across districts. The probability that differences as large as those demonstrated between groups and between districts could have occurred by chance alone is less than 5 percent (Wilks' criterion is used although other estimates are consistent, see Appendix III.A.).

In considering the differences in rating patterns that were found between districts and between groups a univariate analysis of variance was done on each individual rating to determine which of the five ratings which

made up the rating patterns were primary contributors to the differences observed. These univariate analyses of variance statistics are summarized in Appendix III.B. along with the relevant means. These statistics indicate that the overall rating pattern difference between districts is primarily due to the ratings given with respect to the attribute variable "Implications for Staff". As seen by the district means on this variable, Belle Plaine clearly gives more importance to implications for staff than HLV. However, in viewing these differences it must be recalled (see Table 1) that Belle Plaine staff make up 65% of the Belle Plaine sample, whereas HLV staff make up 44% of the HLV district sample. Indeed it should be recognized from this same analysis (Appendix III.B., page 3) that the "Staff Implications" rating variable also differs by group, and that this difference is primarily due to the high importance placed on "staff implications" by the staff itself as one might expect. The community and board on the other hand had very similar ratings on this attribute variable.

While the rating variable "staff implications" was the only one on which differences were clearly significant, it is nonetheless interesting to note the other district and group means. Graphically, these rating pattern means taken from Appendix III.B. are displayed in figure 1 for districts and figure 2 for groups. Recognize from figure 1 that the general rating pattern shows HLV and Belle Plaine as having nearly the same mean importance ratings on the "Educational Quality", "Community Acceptance" and "Efficient Use of Facilities" attributes with HLV giving slightly more importance to "Cost Efficiency" than Belle Plaine. In figure 2 it is seen that again there is pretty close agreement among groups regarding the importance of the "Educational Quality", "Community Acceptance" and "Efficient Use of Facilities" attributes, with a slightly broader range between group means on the variable "Cost Effectiveness".

Figure 1.

District Attribute Importance Rating Patterns

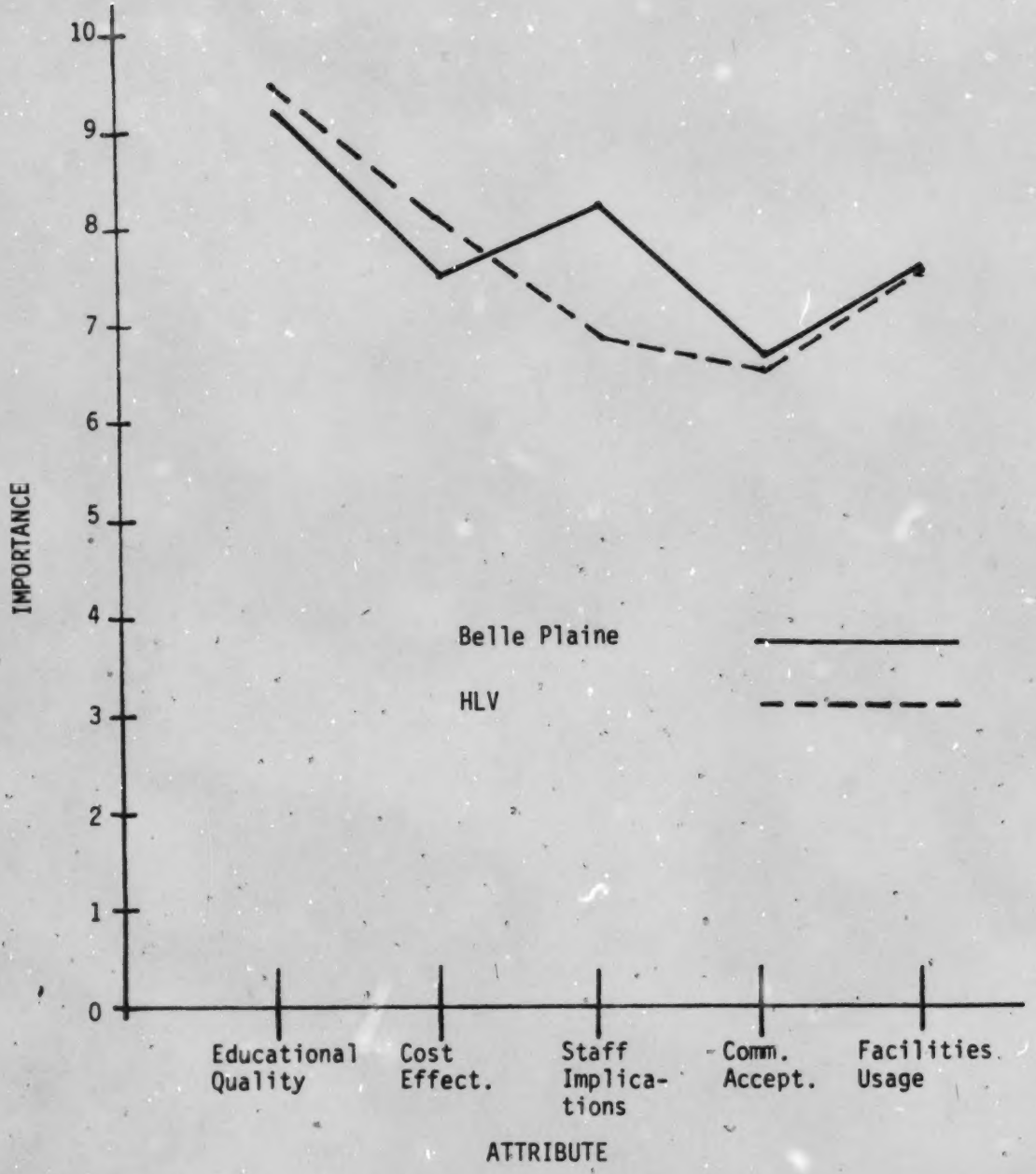
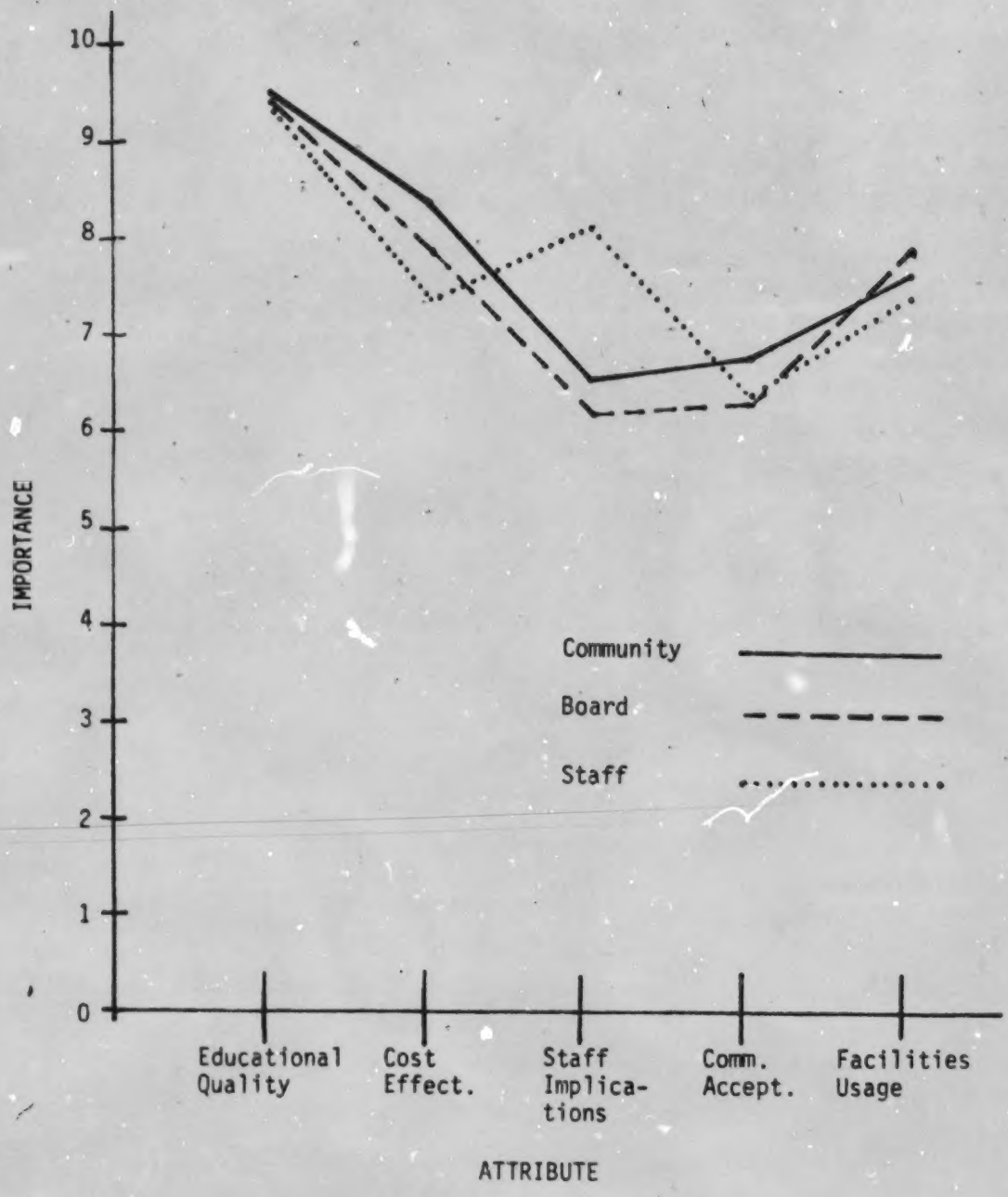


Figure 2.

Group Attribute Importance Rating Patterns



7. Analysis of The Utility of Sharing Alternatives

Having examined the differences in the patterns of attribute importance attention is now directed to the primary objective of analyzing the utility of the sharing alternatives.

In applying the general definition of utility provided earlier, ($u = \Sigma w_j v_j$), there are different approaches which might be taken into consideration. The differences in these approaches depend upon the way in which one obtains the W_j and V_j and applies them in the utility formula. This study shall use what shall be referred to as Group Item Utility. This type of utility focuses on groups as the entities of interest, basing utility calculations upon the mean ratings yielded by each group. This type utility is most relevant in the study since interest is in exploring the way each group perceives each sharing alternative, and since we wish to explore the extent to which there is agreement between groups with respect to the utilities each of them yields.

Group Item Utility is based upon the averages for the various group classifications under consideration. In other words, average attribute importance ratings are used for $\underline{R}_j$ to calculate $\underline{W}_j$, and three $\underline{W}_j$s are used together with the average V_j values for the same group to calculate that group's utility for any given sharing alternative. These group item utilities will allow one to determine how useful a given sharing alternative appears to a group where each group is considered as a unit.

For purposes of convenience and discussion all items will be referred to by their sequence in form 1 of the survey throughout the remainder of the report. Recall that each item reflects a different sharing alternative. Thus item 1 shall always refer to sharing "Advanced Foreign Language", item 2 "Advanced Mathematics, etc., down through item 84 which is sharing "Typewriters and Office Machines" (see Appendix I, survey form 1).

Appendix IV. A. gives the rank ordering of each sharing alternative by its group item utility for each of the six groups administered the survey. Notice that the first column of the appendix gives the rank followed by each group's item and item utility having that rank within that group. The last two columns give the item followed by its average group item utility. This average utility is simply the unweighted (each group contributes equally) average group item utility. For example item 30, sharing a gifted and talented program, has the greatest utility averaged across all six groups (7.178) and thus item 30 is ranked number 1, whereas, for the HLV staff and the Belle Plaine staff this item ranks number 2, for the Belle Plaine board it ranks 11, for the HLV board it ranks 8, for the Belle Plaine community it ranks 53 and for the HLV Community it ranks 7. Clearly the Belle Plaine community group sampled sees the usefulness of sharing a gifted and talented program much differently than the other five groups even though averaging across all six groups this appears to be a very strong possibility for sharing.

For the convenience of the reader wishing to look at each sharing alternative as it was sequenced on the survey (form 1) Appendix IV.B. is also provided. This appendix shows the group item utility for each group along with the rank of that utility within the group arranged by survey item number. The last two columns also provide the average group item utility for the six groups as well as the rank of that utility. For example (see Appendix IV.B.), item 1, sharing advanced foreign language, has a maximum rank of 3 in the Belle Plaine staff group, and a minimum rank of 57 in the HLV community group, with the average utility rank of being 18. As certain sharing alternatives are examined the reader may

wish to refer to Appendix IV B in conjunction with Appendix IV.A.

Item 11, sharing a building trades program (to associate item number with its sharing alternative see Appendix I, form 1), one recognizes from Appendix IV.A. that this item has the second highest average group item utility (7.093). Moreover, there seems to be agreement across each group that this sharing alternative has beneficial potential for the school districts. Note that its lowest ranking is 12 in the HLV community group with all other groups giving it greater preference. Thus not only is this a prime candidate for sharing, judging from its high average utility, but all groups are in pretty close agreement regarding its sharing potential for the districts.

Item 18, sharing a welding program, resulted in an average group item utility with a rank of 3, however, the Belle Plaine staff and the HLV school board yield utilities ranked 23 and 36 respectively which are clearly lower than the rank yielded by the other four groups which consistently ranked this sharing alternative in the top 8. Thus, although this item is worthy of consideration it clearly does not enjoy the same level of consensus across groups that item 11 does.

Item 72, sharing extension courses for credit and for recertification, is an interesting item being ranked 4 based upon its average group item utility (7.015) and being ranked 1 in both districts' staff groups and also in the Belle Plaine community group. However, it is ranked substantially lower in the other three groups. Indeed it ranks as low as 57 in the HLV board. Such discrepancy would seem to indicate that this item is not a clear sharing choice and should not be considered over other more agreed upon alternatives.

Of those items with average group utilities ranked in the top 10, items 34 and 20 are rather similar to item 30 in that all but one of the six

groups rank the item in the top 22 alternatives (page 1 of Appendix IV.A.). For item 34, sharing an alternative high school program, the Belle Plaine community was, as with item 30, the group disagreeing with the other five to rank the item obviously lower (rank=56 for item 34 in the Belle Plaine community sample). On the other hand, for item 20 sharing a vocational agriculture/farm management program, it was the Belle Plaine staff that ranked this item low giving it a rank of 39. Of these items, item 20 and item 30 are probably preferable since there is more agreement on item 20 than the other two items, and since item 30 has the greatest average item utility of all 84 items considered.

Of the remaining items with average group item utilities in the top 10, sharing a self-contained special education program (item 31), sharing instructors for vocational technical programs (item 27) sharing an office practice advanced secretarial program (item 22), and sharing inservice programs for staff (item 71) were all similar to 18, sharing a welding program in that two of the six groups ranked these items below 22. Of these only items 31 and 71 have ranks lower than 37 (see Appendix IV.B).

Judging from the results based upon the group item utilities just presented, it would appear that both because of its high average utility and because of the agreement across groups, item 11, sharing a building trades program, has the greatest potential for sharing out of the 84 sharing alternatives considered. Item 20, sharing a vocational agriculture/farm management program, and item 30 sharing a gifted and talented program are also worthy of strong consideration for sharing even though these items are not consistently ranked high by all six groups.

In considering the prime sharing alternative candidate, sharing a building trades program, it is interesting to examine the sharing approaches for vocational/technical programs. These are sharing instructors (item 27),

sharing equipment (item 28) and sharing facilities (item 29). Notice from Appendix IV.B. that the average group item utilities for these alternative approaches are all above 6.59 and that the rank of these average utilities are all 17 or better. The highest ranked approach is sharing instructors (item 27) with a rank of 8. The lowest rank given by any group was 33 by the Belle Plaine staff. The fact that these approaches are rated quite high, enhances the recommendation that building trades be very strongly considered for sharing.

It is also interesting to note from Appendix IV.A. that the two program areas most represented in the top ranked items are "Programs for Students with Special Needs" (items 30-37) and "Vocational/Technical Programs" (items 11-29). Indeed looking at the average group item utilities (Appendix IV.A.) one notes that 4 out of the 5 special needs programs considered are ranked in the top 22 namely, "Gifted and Talented"(item 30, rank 1), "Self-Contained Special Education" (item 31, rank 7), "Work Activities for Special and Physically Handicapped Adults" (item 33, rank 12) and "Alternative High School" (item 34, rank 5). For this highly visible special needs program area the approach "Sharing Coordinators and Teachers" (item 35, average utility rank 11) is clearly the preferred approach. This gives further support to the gifted and talented sharing alternative noted earlier. For the program area "Vocational/Technical Programs" in addition to the Building Trades (item 11) the Vocational Agriculture/Farm Management (item 20) and the three sharing approaches for Vocational/Technical Programs (items 27-29) already mentioned, the average group item utilities for sharing "Auto Mechanics" (item 12), "Auto Body" (item 13), "Small Engine Repairs" (item 14), "Welding" (item 18), "Health Services" (item 21) and "Office Practice" (item 22) are all also ranked in the top 22 sharing alternatives (see Appendix III.A.). Thus generally the sharing alternatives in the areas of Program

for Students with Special Needs and for Vocational/Technical Programs seem to achieve the greatest potential for sharing. Moreover, in these areas the sharing of professional personnel (instructors, teachers, coordinators) appears to be the preferred approach.

Up to this point in the examination if group item utility results those sharing alternatives and general sharing areas which offer the greatest potential for the districts as judged by the boards, staffs and communities of each district have been identified. However, it is also important to identify those sharing alternatives which, based upon the same utility criteria, are not worthy of consideration for sharing. To this end probably the last page of Appendix IV.A. is most helpful. Furthermore, it will be readily recognized that there is far greater agreement across groups regarding those sharing alternatives that are believed to offer little potential utility than there was for those believed to offer great potential utility. Indeed there is relatively very little difference between the rankings given these low utility items by the six different groups.

The three sharing alternatives yielding the lowest utilities, all below 3.0, are sharing "Cheerleading" (item 48, Rank 84), sharing "Drill Team" (item 49, rank 83) and sharing "Cooks" (item 69, rank 82). Of the 11 sharing alternatives which had average group item utilities below 4.50, all were from the general survey areas "Athletic Programs" and "Specific Personnel Suggested for Sharing". Indeed all of the 7 sharing alternatives listed under "Athletic Programs" (items 47-53) were in this bottom category of 11 alternatives. The other 4 alternatives out of the bottom 11 were from the "Specific Personnel Suggested for Sharing" Area (item 61-70). Indeed it would not seem fruitful to pursue sharing alternatives in these two general areas, particularly in the area of "Athletic Programs".

8. Survey Aggregate Results

Finally in the examination of the group item utility results, general statistics and correlations were computed for the survey as a whole across all 84 items. These are presented in Appendix IV.C. Since these statistics were calculated across the 84 items on the survey, N=84 for each group item utility, the mean values in this appendix are simply the average of the 84 group item utilities yielded by each item in Appendix IV.B. for each group. By looking at these means one can, in a sense, get an idea of how the different groups viewed sharing generally. Thus it appears that the two district school boards generally see greater utility in sharing than do the community and staff groups, that the Belle Plaine staff sees the least utility in sharing (4.919) and that the mean of the average group item utilities was 5.653 which is slightly greater than the mid-point on the survey 0 to 10 scale. From the standard deviation (STD DEV.) given which indicates the extent to which group item utilities were spread out over the 0 to 10 scale, it can be seen that the community groups from the two districts tended to rate all items more alike than did the other groups, and the utilities yielded for items were the most spread out for the HLV board. From the maximum and minimum values given in Appendix IV C, it is interesting to note that the highest utility that the HLV community gave any one item was 6.576 and that no group gave any item or utility less than 1.505 or greater than 8.723.

The correlation coefficients are probably the most interesting part of Appendix IV.C., since they indicate the extent to which the group item utilities yielded by one group correspond to the group item utilities yielded by the other groups. For a perfect correlation of 1.00 to result between two groups the rank ordering of the items should be exactly the same, whereas, if there is no relationship between the utilities yielded for items by the

two groups referenced the correlation would be 0.00. One reads this part of the appendix by looking at the intersection of the row and column variables of interest. For example, the extent to which group item utilities for the Belle Plaine staff (B-S - UTIL) agreed with those for the HLV Board (H - B -UTIL) is .697. Thus one notes that the greatest agreement between different sets of utilities was between the average of the six group item utilities (AVE-UTIL) and the group item utilities yielded by the HLV staff (H-S-UTIL). Looking just at the six groups the greatest level of agreement was between the HLV staff (H-S-UTIL) and the HLV board (H-B-UTIL) with a correlation of .80163, and the smallest correlation of .56275 was between the Belle Plaine staff (B-S-UTIL) and the HLV community sample (H-C-UTIL). It is interesting to note that there is generally fairly high correlation between like groups in the different districts, .77030 for Boards, .75965 for community samples and .74852 for staffs. The number .0001 below each non-identity correlation indicates that there is less than 1 chance in 10,000 that a correlation of that size could have occurred simply by chance. As one might expect, all correlations are significantly different from 0.

As in the preceding sections, the results presented in this section have been based upon group item utilities. While other methods of applying the general utility formula provided earlier for combining importance ratings and benefit ratings would be possible, it is expected, both because of the nature of the ratings actually obtained and because of the distributional tendencies of these ratings, that reasonable alternative utility calculations would yield results consistent with those obtained. For a brief discussion of alternative utility approaches see Appendix V. Generally, however, it should be emphasized that the group item utilities used are a group based combination of perceived attribute importance ratings with perceived alternative ratings. The practical matters of implementation such as contractual arrange-

ments, scheduling, transportation, number of students involved, who does what, when, where, etc., are yet to be considered in much more direct fashion if and when the districts move into the implementation stages. Nonetheless, the utilities provided in this study do provide a means by which sharing alternatives may be chosen in a mutually satisfying way for the districts and groups within districts effected by sharing decisions.

9. Conclusions and Recommendations

In this final section the primary conclusions of the study shall be briefly restated in summary form. Table 4 summarizes the top ten sharing alternatives based upon their average group item utilities. In examining the summary table one should take care to also recognize the extent to which the six groups agreed upon the desirability of that sharing alternative. Thus, the Building Trades alternative is recommended as having the greatest potential since all six groups ranked it in the top 25% and, indeed, the lowest rank any group gave it was 12. Similarly, sharing a Vocational Agriculture/Farm Management program was recommended quite highly since only one group out of the six ranked it below the top 25% and that rank, 39, was higher than that of other alternatives where the level of agreement across groups existed. Item 30, sharing a Gifted and Talented Program must also be given a strong recommendation since not only is it the highest ranked alternative in the table but all but one group rank it in the top 25%.

Another important conclusion evident from table 4, is that all sharing alternatives in the top 10 come from three general sharing areas of which the areas of Vocational Technical Programs and Special Needs Programs are most prominent. Consequently it is recommended that sharing programs in these general areas be given greatest consideration in future planning.

Although similar to table 4, table 5 presents those sharing alternatives which are perceived to have the least utility for the districts. Hence it is recommended that these alternatives be eliminated from any further consideration for sharing purposes. As can be seen from table 5 there is much greater agreement between groups regarding sharing alternatives deemed the worst than there was for alternatives deemed the best. Specifically, the three

TABLE 4. THE TOP TEN SHARING ALTERNATIVES BASED ON AVERAGE GROUP ITEM UTILITIES

Sharing Alternative	Survey Item #	General Area	Average Util	Average Rank	Group Ranking Highest	Group Ranking Lowest	Number of Groups Ranking IT In Top 21 (Top 25%)
Gifted and Talented	(30)	Special Needs	7.17	1	1	53	5
Building Trades	(11)	Voc/Tech Programs	7.09	2	2	12	6
Welding	(18)	Voc/Tech Programs	7.02	3	2	36	4
Extension courses for credit & recertification	(72)	Staff Development	7.01	4	1	57	3
Alternative High School	(34)	Special Needs	7.00	5	1	56	5
Vocational Agriculture/ Farm Management	(20)	Voc/Tech Programs	6.86	6	1	39	5
Self-Contained Special Ed.	(31)	Special Needs	6.83	7	4	46	3
Sharing Instructors	(27)	Sharing Approaches (Voc/Tech Programs)	6.81	8	4	33	4
Inservice Program for Staff	(71)	Inservice Program for Staff	6.81	9	2	53	4
Office Practice (Advanced Secretarial)	(22)	Voc/Tech Programs	6.79	10	6	27	4

TABLE 5. THE BOTTOM ELEVEN SHARING ALTERNATIVES BASED ON AVERAGE GROUP ITEM UTILITIES

Sharing Alternatives	Survey Item #	General Area	Average Util	Average Rank	Group Ranking Highest	Group Ranking Lowest	Number of Groups Ranking IT In Bottom 21 (Bottom 25%)
Cheer Leading	48	Athletics	2.38	84	78	84	6
Drill Team	49	Athletics	2.44	83	81	84	6
Cook(s)	69	Specific Personnel	2.92	82	78	84	6
Secretary(ies)	70	Specific Personnel	3.15	81	77	84	6
Custodian(s)	68	Specific Personnel	3.17	80	72	81	6
Coaches/Sponsors (not team)	50	Athletics	3.25	79	74	84	6
Athletic Directors, Teachers	51	Athletics	4.25	78	68	83	6
Athletic Equipment	52	Athletics	4.27	77	66	76	6
General Physical Education	47	Athletics	4.32	76	52	78	5
Principal(s)	62	Specific Personnel	4.40	75	41	82	5
Athletic Facilities	53	Athletics	4.50	74	59	77	5

worst sharing ideas are with respect to sharing Cheer Leading, Drill Team and Cooks.

Again it is important to recognize that these bottom eleven sharing possibilities all fall in the general areas of Athletics and Specific Personnel. Therefore, it is recommended that specific sharing alternatives in these general areas should be avoided as the district plans for its future.

Due to their prominent role in calculating the group item utilities used in this study, the attribute importance rating patterns were examined. The five attribute areas rated were Educational Quality, Cost Effectiveness, Implications for Staff, Community Acceptance, and Efficient Facilities Usage. It was concluded that the pattern of importance ratings on these five attributes significantly differed both by District (recall figure 1) and by groups across districts (recall figure 2). It was further concluded that these differences were primarily due to the high importance rating given to the attribute Immplications for Staff by the staff members themselves.

The data were also examined on a general survey basis by calculating statistics for the aggregation of all eighty-four items. These statistics indicated that the school boards generally see the greatest value in sharing. Furthermore, correlations indicate that there is a fairly substantial general level of agreement between the ways in which the groups in the two districts ranked the eighty-four items.

Epilogue
~~Prologue~~

Each of the ten specific areas recommended for sharing (table 4) can be implemented by the districts with assistance from Grant Wood and/or Kirkwood Community College. The Special Needs areas of Gifted and Talented, Alternative High School, and self-contained special education classes reflect direct services that can be provided by Grant Wood. Educational Services' Consultants with expertise in gifted and talented programs and gifted children are currently available for district use. The Research Department at Grant Wood can be deployed to assist in the procedures of gifted student identifications. Educational Services' Consultants can be again used in setting up an Alternative High School. There are well established programs in Cedar Rapids and Iowa City which can be consulted as well. Grant Wood Special Education staff have been assigned to these alternative schools in the past and can lend their expertise. Special Education Consultants can also be of assistance in setting up shared self-contained special education classes.

Shared staff development activities are also highly recommended. The two specific recommendations regarding staff development, providing joint extension classes and joint inservice programs, can be readily addressed by the Grant Wood Inservice Program in the Division of Educational Services. Staff development courses can be taught in the HLV-Belle Plaine area if there are enough teachers with a common course interest to make an extension course feasible. Joint teacher inservices are currently operating with College Community, Marion and Linn-Mar. These joint inservices are coordinated by the Grant Wood Inservice Program staff. A similar service can be provided HLV and Belle Plaine.

Vocational/Technical Programs are very popular areas for sharing and are highly recommended. Kirkwood Community College can be of greatest help in designing and offering shared programs and instructors in the four specific areas recommended. A Kirkwood KEY program, or other vocational oriented satellite programs, can be established in the HLV-Belle Plaine area to satisfy the vocational needs of students in the districts.

As mentioned in the Preface, it was the intention of the Task Force to become more actively involved with the districts in the northern part of the area during the 1980-81 year. The basic procedures, questionnaires and analyses, employed in this study can easily be adapted for the nine districts in the "secondary cluster". Such a study would be considerably more complex and time consuming since nine rather than two districts would be involved. The superintendents in these nine districts will be approached early in the year to negotiate the role Grant Wood should assume in working with them during the year.

The findings and recommendations expressed in this study do not in any way limit the possibilities for inter-district sharing. This study is an attempt to provide some direction to administrators and boards at HLV and Belle Plaine so that meaningful and successful sharing can be enhanced and educational quality not be unnecessarily sacrificed because of declining enrollments.

APPENDIX I

SURVEYS

FORM 1

INTRODUCTION

The current and projected effects of declining enrollments necessitate that local school districts explore various means of holding down costs while at the same time maintaining and enhancing the education offered in their districts. A very attractive means of accomplishing this ever difficult objective is for local districts to share certain educational programs, personnel, equipment, facilities, etc.

For the purpose of planning for the future, the school districts of Belle Plaine and HLV are exploring a wide range of sharing alternatives. To facilitate this exploration and planning process, research consultants from the Grant Wood Area Education Agency have been called upon as objective outsiders to conduct a study aimed at determining those sharing alternatives which have the greatest potential benefit as implied by the judgments of the various segments of the people affected in the two districts. Results should be available in June.

YOUR INPUT

The data collected in the survey you are about to complete will be the basis for the study referred to in the above introduction. Therefore, your responses are very important and should be considered carefully.

Please do not give your name anywhere on this survey. We want to maintain the confidentiality of your responses as well as the responses of others.

INSTRUCTIONS

Please wait for oral instructions before you begin.

SAO:ec

3/3/80

DISTRICT REPRESENTATION INFORMATION

Check the school district that you live in:

_____ Belle Plaine (060576)
I;11-16

_____ B.G.M. (790846)
I;11-16

_____ HLV (482766)
I;11-16

Check any of the following that are true of you.

_____ I am a student attending school in the district checked above.
I;17

_____ I am a parent of a student in the school district checked above.
I;18

_____ I am a taxpayer in the school district checked above.
I;19

_____ I am a school board member for the school district checked above.
I;20

_____ I am employed at least half time by the school district checked
I;21 above, as a - check one and only one of the following:

_____ Teacher
I;22

_____ Counselor
I;23

_____ Administrator
I;24

_____ Other. (Specify)_____.
I;25

1
_____ _____ _____ _____ _____
I;26 I;27 I;28 I;29 I;30

_____ Educational-Quality

1;31-32

The educational quality of a school district refers to the degree and extent to which the district is able to produce and enhance learning for each of its students. This involves providing the opportunities to learn in an equitable way as well as providing the educational programs, curriculum, facilities, equipment, materials and skilled staff necessary to effectively put these opportunities to greatest benefit in meeting individual student needs.

_____ Implications for Staff

1;33-34

Possible implications for the district's staff (administrators, secretaries, counselors, teachers, aids, cooks, bus drivers, maintenance, etc.) include factors which might affect morale such as staff time required; adjustment to new schedules, equipment, facilities, materials, etc.; increases or decreases in the number of students per teacher class; staff increases, reductions, or reassignments; travel requirements, etc.

_____ Cost Effectiveness

1;35-36

Cost effectiveness simply means efficient use of the school district's money. In other words, cost effectiveness is providing maximum benefit per dollar and minimizing costs while maintaining and/or enhancing the quality of education in the district.

_____ Community Acceptance

1;37-38

Community acceptance means that the district's taxpayers approve of and do not react negatively against a given action taken by school officials.

_____ Efficient Use of Facilities

1;39-40

This means getting maximum use out of the districts' buildings, equipment, and other tangible items. This involves space utilization, energy utilization and equipment utilization in relationship to the means by which and purposes for which they are used.

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Academic Programs					
1 Advanced Foreign Language (02)					
2 Advanced Mathematics					
3 Advanced Sciences					
4 Computer Science					
5 Family Life & Adult Living & Human Sexuality					
6 Business Education					
7 Kindergarten					
Sharing Approaches (Academic Programs)					
8 Sharing Teachers (03)					
9 Sharing Materials and Equipment (e.g. books, microscopes, etc.)					
10 Sharing facilities (e.g. classroom space)					

*Item numbers did not appear on the original surveys when administered.

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Vocational/Technical Programs					
11 Building Trades					
12 Auto Mechnaics					
13 Auto Body					
14 Small Engine Repair					
15 Plumbing and heating (04)					
16 Refrigeration maintenance & repair					
17 Small appliance repair					
18 Welding					
19 Basic and Digital Electronics					
20 Vocational Agriculture/Farm Management					
21 Health Services					
22 Office Practice (Adv. Secretarial) (05)					
23 Upholstery and Furniture Refinishing					
24 Work Study (Coop) Program					
25 Pre-School Child Care training (on - the-job for seniors)					
26 Driver Education					
Sharing Approaches (Voc./Tech. Programs)					
27 Sharing instructors					
28 Sharing Equipment (machine tools, practice items like engines)					
29 Sharing Facilities (e.g. shops, office space, external work sites, etc.) (06)					

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Programs for Students with Special Needs					
30 Gifted & Talented					
31 Self-Contained Special Education					
32 Pre-School for Special Education					
33 Work Activities for Special Ed. & Physically Handicapped Adults					
34 Alternative High School (for students who have difficulty learning under traditional school environments)					
Sharing Approaches (Special Needs)					
35 Sharing Coordinators and Teachers					
36 Sharing Materials/Equipment (e.g. learning aids, activity tools, books, etc.) (07)					
37 Sharing Facilities (classroom, activity center, etc.)					
Service Programs					
38 Student Placement Service					
39 Vocational & Career Guidance					
40 Elementary Counseling					
41 Big Brother Program					
42 Adult Continuing Education					
43 Pre-School (3 & 4 yr. olds) (08)					
Sharing Approaches (Service Programs)					
44 Sharing Personnel (e.g. Coordinator, Counselors)					
45 Sharing Materials (e.g. Guidance Materials, measurement instruments, etc.)					
46 Sharing Facilities (e.g., classrooms or office space)					

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Athletic Programs					
47 General Physical Education					
48 Cheerleading					
49 Drill Team					
Sharing Approaches (Athletics Program)					
50 Sharing Coaches/Sponsors (not team) (09)					
51 Sharing Athletics Directors, Teachers					
52 Sharing Equipment (Mats, Gym Equip., etc.)					
53 Sharing Facilities (Gymnasium, Weights Room, Central Playing Field)					
Fine Arts Programs					
54 Elementary Music (Vocal, Instrumental)					
55 Secondary Music (Vocal, Instrumental, Dance, etc.)					
56 Drama					
57 Art (10)					
Sharing Approaches (Fine Arts Programs)					
58 Sharing Teachers					
59 Sharing Materials & Equipment (Music Books, Easels, Props, etc.)					
60 Sharing Facilities (classrooms, theater, art shops, etc.)					

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Specific Personnel Suggested for Sharing					
61 Superintendent(s)					
62 Principal(s)					
63 Business Manager					
64 Transportation Manager (11)					
65 Energy Coordinator					
66 Curriculum and Multi-Cultural Non-Sexist Coordinator					
67 Nurse(s)					
68 Custodian(s)					
69 Cook(s)					
70 Secretarie(s)					
Staff Development Programs					
71 Inservice Program for Staff (12)					
72 Extension Courses for Credit (and for recertification)					

DISTRICT SHARING ALTERNATIVES Specific Facilities/Equipment/Materials Sharing Suggestions	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
73 Mini-Computer					
74 Computer terminal(s)					
75 Micro Wave System (Computer Comm.)					
76 Audio and Video Equipment					
77 Driver Education Vehicle					
78 Buses (13)					
79 Central Printing Facilities					
80 Media and Music Lending Center					
81 Auto Shop and equipment					
82 Electronic shop and equipment					
83 Science Equipment					
84 Typewriters and office machines					

FORM 2

INTRODUCTION

The current and projected effects of declining enrollments necessitate that local school districts explore various means of holding down costs while at the same time maintaining and enhancing the education offered in their districts. A very attractive means of accomplishing this ever difficult objective is for local districts to share certain educational programs, personnel, equipment, facilities, etc.

For the purpose of planning for the future, the school districts of Belle Plaine and HLV are exploring a wide range of sharing alternatives. To facilitate this exploration and planning process, research consultants from the Grant Wood Area Education Agency have been called upon as objective outsiders to conduct a study aimed at determining those sharing alternatives which have the greatest potential benefit as implied by the judgments of the various segments of the people affected in the two districts. Results should be available in June.

YOUR INPUT

The data collected in the survey you are about to complete will be the basis for the study referred to in the above introduction. Therefore, your responses are very important and should be considered carefully.

Please do not give your name anywhere on this survey. We want to maintain the confidentiality of your responses as well as the responses of others.

INSTRUCTIONS

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SAO:ec

3/3/80

DISTRICT REPRESENTATION INFORMATION

Check the school district that you live in:

_____ 1;11-16 Belle Plaine (060576)

_____ 1;11-16 B.G.M. (790846)

_____ 1;11-16 HLV (482766)

Check any of the following that are true of you.

_____ 1;17 I am a student attending school in the district checked above.

_____ 1;18 I am a parent of a student in the school district checked above.

_____ 1;19 I am a taxpayer in the school district checked above.

_____ 1;20 I am a school board member for the school district checked above.

_____ 1;21 I am employed at least half time by the school district checked above, as a - check one and only one of the following:

_____ 1;22 Teacher

_____ 1;23 Counselor

_____ 1;24 Administrator

_____ 1;25 Other. (Specify)_____.

2 1;26 _____ 1;27 _____ 1;28 _____ 1;29 _____ 1;30

ATTRIBUTE RATING

_____ Educational-Quality

1;31-32

The educational quality of a school district refers to the degree and extent to which the district is able to produce and enhance learning for each of its students. This involves providing the opportunities to learn in an equitable way as well as providing the educational programs, curriculum, facilities, equipment, materials and skilled staff necessary to effectively put these opportunities to greatest benefit in meeting individual student needs.

_____ Implications for Staff

1;33-34

Possible implications for the district's staff (administrators, secretaries, counselors, teachers, aids, cooks, bus drivers, maintenance, etc.) include factors which might affect morale such as staff time required; adjustment to new schedules, equipment, facilities, materials, etc.; increases or decreases in the number of students per teacher class; staff increases, reductions, or reassignments; travel requirements, etc.

_____ Cost Effectiveness

1;35-36

Cost effectiveness simply means efficient use of the school district's money. In other words, cost effectiveness is providing maximum benefit per dollar and minimizing costs while maintaining and/or enhancing the quality of education in the district.

_____ Community Acceptance

1;37-38

Community acceptance means that the district's taxpayers approve of and do not react negatively against a given action taken by school officials.

_____ Efficient Use of Facilities

1;39-40

This means getting maximum use out of the districts' buildings, equipment, and other tangible items. This involves space utilization, energy utilization and equipment utilization in relationship to the means by which and purposes for which they are used.

SAO:ec
2/19/80

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Specific Facilities/Equipment/Materials Sharing Suggestions					
Mini-Computer (02)					
Computer terminal(s)					
Micro Wave System (Computer Comm.)					
Audio and Video Equipment					
Driver Education Vehicle					
Buses					
Central Printing Facilities					
Media and Music Lending Center (03)					
Auto Shop and equipment					
Electronic shop and equipment					
Science Equipment					
Typewriters and office machines					

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Specific Personnel Suggested for Sharing					
Superintendent(s)					
Principal(s)					
Business Manager (04)					
Transportation Manager					
Energy Coordinator					
Curriculum and Multi-Cultural Non-Sexist Coordinator					
Nurse(s)					
Custodian(s)					
Cook(s)					
Secretarie(s) (05)					
Staff Development Programs					
Inservice Program for Staff					
Extension Courses for Credit (and for recertification)					

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Athletic Programs					
General Physical Education					
Cheerleading					
Drill Team					
Sharing Approaches (Athletics Program)					
Sharing Coaches/Sponsors (not team)					
Sharing Athletics Directors, Teachers (06)					
Sharing Equipment (Mats, Gym Equip., etc.)					
Sharing Facilities (Gymnasium, Weights Room, Central Playing Field)					
Fine Arts Programs					
Elementary Music (Vocal, Instrumental)					
Secondary Music (Vocal, Instrumental, Dance, etc.)					
Drama					
Art					
Sharing Approaches (Fine Arts Programs)					
Sharing Teachers (07)					
Sharing Materials & Equipment (Music Books, Easels, Props, etc.)					
Sharing Facilities (classrooms, theater, art shops, etc.)					

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Programs for Students with Special Needs					
Gifted & Talented					
Self-Contained Special Education					
Pre-School for Special Education					
Work Activities for Special Ed. & Physically Handicapped Adults					
Alternative High School (for students who have difficulty learning under traditional school environments) (08)					
Sharing Approaches (Special Needs)					
Sharing Coordinators and Teachers					
Sharing Materials/Equipment (e.g. learning aids, activity tools, books, etc.)					
Sharing Facilities (classroom, activity center, etc.)					
Service Programs					
Student Placement Service					
Vocational & Career Guidance					
Elementary Counseling					
Big Brother Program (09)					
Adult Continuing Education					
Pre-School (3 & 4 yr. olds)					
Sharing Approaches (Service Programs)					
Sharing Personnel (e.g. Coordinator, Counselors)					
Sharing Materials (e.g. Guidance Materials, measurement instruments, etc.)					
Sharing Facilities (e.g., classrooms or office space)					

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Vocational/Technical Programs					
Building Trades					
Auto Mechnaics (10)					
Auto Body					
Small Engine Repair					
Plumbing and heating					
Refrigeration maintenance & repair					
Small appliance repair					
Welding					
Basic and Digital Electronics (11)					
Vocational Agriculture/Farm Management					
Health Services					
Office Practice (Adv. Secretarial)					
Upholstery and Furniture Refinishing					
Work Study (Coop) Program					
Pre-School Child Care training (on - the-job for seniors)					
Driver Education (12)					
Sharing Approaches (Voc./Tech. Programs)					
Sharing instructors					
Sharing Equipment (machine tools, practice items like engines)					
Sharing Facilities (e.g. shops, office space, external work sites, etc.)					

DISTRICT SHARING ALTERNATIVES	Educational Quality	Cost Effectiveness	Implications for Staff	Community Acceptance	Efficient Use of Facilities
Academic Programs					
Advanced Foreign Language					
Advanced Mathematics					
Advanced Sciences					
Computer Science (13)					
Family Life & Adult Living & Human Sexuality					
Business Education					
Kindergarten					
Sharing Approaches (Academic Programs)					
Sharing Teachers					
Sharing Materials and Equipment (e.g. books, microscopes, etc.)					
Sharing facilities (e.g. classroom space)					

APPENDIX II

INSTRUCTIONS OUTLINE FOR
SHARING ALTERNATIVES SURVEY

I. 1) Please read cover sheet

2) Survey should take 60 to 80 minutes to complete

3) If there are any questions as you go through the survey please ask

II. 1) Turn to page 1 - District Representation Information

2) Please check the appropriate blanks

3) The information on this page will allow us to keep different groups separate - e.g. HLV and Belle Plaine

4) The blanks in a row at the bottom may be left blank

III. 1) We are going to be rating the relative benefits of possible between district sharing alternatives

2) Of course, there are different ways that any given sharing option may benefit the school district

3) From ideas obtained from the staff and school board members of the districts involved 5 major categories of sharing benefits have been identified.

4) These are referred to as attributes and they are listed on page 2 with a brief explanation of each.

5) Please turn to page 2, if you haven't already, and read through each attribute description (5 Min.)

6) Please rate the relative importance of each of these attributes on scale of 0 to 10.

0 = No importance at all

10 = Extremely important

5 = Moderately important, etc.

In providing these ratings keep in mind that a rating of 4 indicates 2 times the importance of a 2 rating, 9 is three times as important as 3, etc.

7) Any rating can be used more than once - i.e. these are ratings <u>not</u> rankings

IV. 1) We are now ready to complete the most important part of this survey, the rating of District Sharing alternatives.

2) Turn to page 3.

3) Down the left hand side of each of the following pages there are various sets of sharing alternatives.

4) These sharing possibilities come from suggestions made by staff and school board members from the school districts involved.

5) At the top of each column on the right you will see the attributes you have just considered.

6) Notice that on some pages, for example 4 & 5, there is at the bottom of each sharing alternative category a set of sharing approaches.

7) This set of sharing approaches refers to that category of programs only. That is under Sharing Approaches (Service Programs). Sharing personnel refers to the personnel that would staff service programs.

8) Now starting with page 3 and continuing to the end (page 8), fill each open box with a rating of the benefit that you think sharing the option listed on the left will have in your district in terms of each attribute.

9) For examples, suppose there was a shring alternative of intermural chess playing, you would in column 1 ask yourself how much benefit in terms of educational quality would this district get from sharing an intermural chess playing activity.

10) You might think that chesss promotes logical thinking, evaluation of risk, decision making, etc., and consequently rate its benefit rather highly, say 7. Others might think it is relatively void of educational benefit and rate it a 2 or a 1.

11) The same would be done for each column. That is, how beneficial is sharing a chess program in terms of cost effectiveness, how beneficial is sharing chess in terms of staff implications, how beneficial is sharing a chess program in terms of community acceptance.

12) The ratings of relative benefit for a sharing option are like those given earlier.

0 indicates no benefit at all
10 indicates extreme benefit
5 indicates moderate benefit
8 indicates twice the benefit of 4
6 indicates 3 times the benefit of a 2

13) Are there any questions before we begin?

14) OK begin. Remember you are to fill each open box with a rating indicating the relative benefit you think the district will get by sharing the item on the left; but in terms of each of the 5 attributes.

V. 1) After 40 minutes into the survey stop group, have them return to page 1 of the survey and answer the following 4 questions in the bottom row of blanks:

1;27 This survey was difficult for me to respond to.
1;28 This survey will provide useful information for the district.
1;29 I am pleased that this district uses my input in its planning.
1;30 My spouse is here with me? 1 = Yes 2 = No

2) Responses to 1;27 1;28 and 1;29 are coded as follows:

1 = Strongly Disagree
2 = Disagree
3 = Undecided
4 = Agree
5 = Strongly Agree

VI. Express thanks to the group.

APPENDIX III.A.

MULTIVARIATE STATISTICS FOR THE ANALYSIS OF ATTRIBUTE IMPORTANCE RATING PATTERNS

ANALYSIS OF ATTRIBUTE RATINGS OF IMPORTANCE

GENERAL LINEAR MODELS PROCEDURE

MANOVA TEST CRITERIA FOR THE HYPOTHESIS OF NO OVERALL DISTRICT EFFECT

H = TYPE IV SS&CP MATRIX FOR: DISTRICT
E = ERROR SS&CP MATRIX
P = DEP. VARIABLES = 5
Q = HYPOTHESIS DF = 1
NE= DF OF E = 156
S = MIN(P,Q) = 1
M = .5(ABS(P-Q)-1) = 1.5
N = .5(NE-P-1) = 75.0

HOTELLING-LAWLEY TRACE = TR(E**-1*H) = 0.08057190

F APPROXIMATION = 2(S*N+1)*TR(E**-1*H)/(S*S*(2M+S+1))
WITH S(2M+S+1) AND 2(S*N+1) DF

F(5,152) = 2.45 PROB > F = 0.0360

PILLAI'S TRACE V = TR(H*INV(H+E)) = 0.07456413

F APPOXIMATION = (2N+S+1)/(2M+S+1) * V/(S-V)
WITH S(2M+S+1) AND S(2N+S+1) DF

F(5,152) = 2.45 PROB > F = 0.0360

WILKS' CRITERION L = DET(E)/DET(H+E) = 0.92543587

EXACT F = (1-L)/L*(NE+Q-P)/P
WITH P AND NE+Q-P DF

F(5,152) = 2.45 PROB > F = 0.0360

ROY'S MAXIMUM ROOT CRITERION = 0.08057190

FIRST CANONICAL VARIABLE YIELDS AN F UPPER BOUND

F(1,156) = 12.57 (UPPER BOUND)

ANALYSIS OF ATTRIBUTE RATINGS OF IMPORTANCE

GENERAL LINEAR MODELS PROCEDURE

MANOVA TEST CRITERIA FOR THE HYPOTHESIS OF NO OVERALL GROUP EFFECT

H = TYPE IV SS&CP MATRIX FOR: GROUP
E = ERROR SS&CP MATRIX
P = DEP. VARIABLES = 5
Q = HYPOTHESIS DF = 2
NE= DF OF E = 156
S = MIN(P,Q) = 2
M = .5(ABS(P-Q)-1) = 1.0
N = .5(NE-P-1) = 75.0

HOTELLING-LAWLEY TRACE = TR(E**-1*H) = 0.24016161

F APPROXIMATION = 2(S*N+1)*TR(E**-1*H)/(S*S*(2M+S+1))
WITH S(2M+S+1) AND 2(S*N+1) DF

F(10,302) = 3.63 PROB > F = 0.0001

PILLAI'S TRACE V = TR(H*INV(H+E)) = 0.19774217

F APPOXIMATION = (2N+S+1)/(2M+S+1) * V/(S-V)
WITH S(2M+S+1) AND S(2N+S+1) DF

F(10,306) = 3.36 PROB > F = 0.0004

WILKS' CRITERION L = DET(E)/DET(H+E) = 0.80452134

EXACT F = (1-SQRT(L))/SQRT(L)*(NE+Q-P-1)/P
WITH 2P AND 2(NE+Q-P-1) DF

F(10,304) = 3.49 PROB > F = 0.0002

ROY'S MAXIMUM ROOT CRITERION = 0.22781151

FIRST CANONICAL VARIABLE YIELDS AN F UPPER BOUND

F(2,156) = 17.77 (UPPER BOUND)

ANALYSIS OF ATTRIBUTE RATINGS OF IMPORTANCE

GENERAL LINEAR MODELS PROCEDURE

MANOVA TEST CRITERIA FOR THE HYPOTHESIS OF NO OVERALL GROUP*DISTRICT EFFECT

H = TYPE IV SS&CP MATRIX FOR: GROUP*DISTRICT
E = ERROR SS&CP MATRIX
P = DEP. VARIABLES = 5
Q = HYPOTHESIS DF = 2
NE= DF OF E = 156
S = MIN(P,Q) = 2
M = .5(ABS(P-Q)-1) = 1.0
N = .5(NE-P-1) = 75.0

HOTELLING-LAWLEY TRACE = TR(E**-1*H) = 0.05985690

F APPROXIMATION = 2(S*N+1)*TR(E**-1*H)/(S*S*(2M+S+1))
WITH S(2M+S+1) AND 2(S*N+1) DF

F(10,302) = 0.90 PROB > F = 0.5299

PILLAI'S TRACE V = TR(H*INV(H+E)) = 0.05742116

F APPOXIMAPION = (2N+S+1)/(2M+S+1) * V/(S-V)
WITH S(2M+S+1) AND S(2N+S+1) DF

F(10,306) = 0.90 PROB > F = 0.5293

WILKS' CRITERION L = DET(E)/DET(H+E) = 0.94306495

EXACT F = (1-SQRT(L))/SQRT(L)*(NE+Q-P-1)/P
WITH 2P AND 2(NE+Q-P-1) DF

F(10,304) = 0.90 PROB > F = 0.5296

ROY'S MAXIMUM ROOT CRITERION = 0.04942857

FIRST CANONICAL VARIABLE YIELDS AN F UPPER BOUND

F(2,156) = 3.86 (UPPER BOUND)

APPENDIX III.B.

UNIVARIATE STATISTICS FOR ATTRIBUTE IMPORTANCE RATINGS

ANALYSIS OF ATTRIBUTE RATINGS OF IMPORTANCE

Univariate follow-up on the rating variable "Quality"

SOURCE	DF	SUMS OF SQUARES	F VALUE	PROBABILITY OF GREATER F
Group	2	0.41008923	0.07	0.9311
District	1	1.04023137	0.36	0.5481
Group x District	2	1.72270774	0.30	0.7413

OVERALL STATISTICS	N	MEAN	STANDARD DEVIATION
Quality	162	9.3642	1.6946

DISTRICT AND GROUP MEANS

GROUP	N	MEANS	GROUPING*
Community	61	9.426	A
Board	14	9.357	A
Staff	87	9.322	
DISTRICT			
HLV	90	9.4556	A
Belle Plaine	72	9.2500	A
GROUP/DISTRICT			
Board/BP	7	9.1429	
Board/HLV	7	9.5714	
Comm/BP	18	9.5000	
Comm/HLV	43	9.3953	
Staff/BP	47	9.1702	
Staff/HLV	40	9.5000	

Duncan's Multiple Range Test

*Means with same letter are not significantly different

Alpha level = .05 DF = 156

ANALYSIS OF ATTRIBUTE RATINGS OF IMPORTANCE

Univariate follow-up on the rating variable "Cost Effectiveness"

SOURCE	DF	SUMS OF SQUARES	F VALUE	PROBABILITY OF A GREATER F
Group	2	21.30906747	2.47	0.0878
District	1	0.13442372	0.03	0.8601
Group x District	2	6.52331312	0.76	0.4710

OVERALL STATISTICS	N	MEAN	STANDARD DEVIATION
Cost Effectiveness	162	7.8148	2.0763

DISTRICT AND GROUP MEANS

GROUP	N	MEAN	GROUPING*
Community	61	8.344	A
Board	14	7.786	A B
Staff	87	7.448	B
DISTRICT			
HLV	90	8.078	A
Belle Plaine	72	7.486	A
GROUP/DISTRICT			
Board/BP	7	8.1429	
Board/HLV	7	7.4286	
Comm/BP	18	8.1667	
Comm/HLV	43	8.4186	
Staff/BP	47	7.1277	
Staff/HLV	40	7.8250	

Duncan's Multiple Range Test

*Means with same letter are not significantly different

Alpha level = .05 DF = 156

ANALYSIS OF ATTRIBUTE RATINGS OF IMPORTANCE

Univariate follow-up on the study variable "Staff"

SOURCE	DF	SUMS OF SQUARES	F VALUE	PROBABILITY OF GREATER F
Group	2	87.09528579	8.52	0.0003
District	1	28.90525337	5.65	0.0186
Group x District	2	0.24259973	0.02	0.9766

OVERALL STATISTICS	N	MEANS	STANDARD DEVIATION
Staff	162	7.4383	2.2612

DISTRICT AND GROUP MEANS

GROUP	N	MEANS	GROUPING*
Community	61	6.5902	B
Board	14	6.2143	B
Staff	87	8.2299	A

DISTRICT

HLV	90	6.8333	B
Belle Plaine	72	8.1944	A

GROUP/DISTRICT

Board/BP	7	6.8571
Board/HLV	7	5.5714
Comm./BP	18	7.3888
Comm./HLV	43	6.2558
Staff/BP	47	8.7021
Staff/HLV	40	7.6750

Duncan's Multiple Range Test

*Means with same letter are not significantly different

Alpha level = .05 DF = 156

ANALYSIS OF ATTRIBUTE RATINGS OF IMPORTANCE

Univariate followup on the study variable "Community Acceptance"

SOURCE	DF	SUMS OF SQUARES	F VALUE	PROBABILITY OF GREATER F
Group	2	14.78156529	1.33	0.2681
District	1	11.27732713	2.03	0.1567
Group x District	2	32.46461639	2.92	0.0571

OVERALL STATISTICS	N	MEANS	STANDARD DEVIATION
Community Acceptance	162	6.5617	2.3595

DISTRICT AND GROUP MEANS

GROUP	N	MEANS	GROUPING*
Community	61	6.8361	A
Board	14	6.3571	A
Staff	87	6.4023	A
DISTRICT			
HLV	90	6.5222	A
Belle Plaine	72	6.6111	A
GROUP/DISTRICT			
Board/BP	7	7.1429	
Board/HLV	7	5.5714	
Comm./BP	18	7.6667	
Comm./HLV	43	6.4884	
Staff/BP	47	6.1277	
Staff/HLV	40	6.7250	

Duncan's Multiple Range Test

*Means with same letter are not significantly different

Alpha level = .05 DF = 156

ANALYSIS OF ATTRIBUTE RATINGS OF IMPORTANCE

Univariate follow-up on the study variable "Facility Use"

SOURCE	DF	SUMS OF SQUARES	F VALUE	PROBABILITY OF GREATER F
Group	2	5.58326301	0.62	0.5379
District	1	5.20947058	1.16	0.2828
Group x District	2	14.98363156	1.67	0.1914

OVERALL STATISTICS	N	MEANS	STANDARD DEVIATION
Facility Use	162	7.5123	2.1175

DISTRICT AND GROUP MEANS

GROUP	N	MEANS	GROUPING*
Community	61	7.6230	A
Board	14	7.7857	A
Staff	87	7.3908	A
DISTRICT			
HLV	90	7.4667	A
Belle Plaine	72	7.5694	A
GROUP/DISTRICT			
Board/BP	7	8.2857	
Board/HLV	7	7.2857	
Comm./BP	18	8.2222	
Comm./HLV	43	7.3721	
Staff/BP	47	7.2128	
Staff/HLV	40	7.6000	

Duncan's Multiple Range Test

*Means with same letter are not significantly different

Alpha level = .05 DF = 156

APPENDIX IV.A.

GROUP ITEM UTILITIES RANK ORDERED BY GROUP

GROUP ITEM UTILITIES RANK ORDERED BY GROUP

	Belle Plaine						HLY						Average	
	Board		Community		Staff		Board		Community		Staff		(6 Groups)	
RANK	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL
1	34	8.72254	72	7.14307	72	7.64847	20	8.41590	26	6.57605	72	9.13270	30	7.17777
2	18	8.03280	71	6.99186	30	7.60820	18	8.38594	34	6.49931	30	7.74572	11	7.09344
3	11	8.15059	2	6.73406	1	7.25872	11	8.35023	35	6.42408	20	7.70085	18	7.02625
4	36	8.15009	39	6.72966	34	7.10491	22	8.29551	27	6.35495	31	7.61155	72	7.01548
5	35	8.07427	26	6.67870	31	6.89248	34	8.29263	77	6.35201	18	7.39722	34	7.00551
6	27	8.01960	3	6.44345	71	6.85691	1	8.21141	20	6.35148	22	7.25247	20	6.80419
7	14	7.98659	45	6.44107	4	6.81606	27	8.13076	30	6.32268	12	7.21083	31	6.83061
8	29	7.91903	18	6.41192	33	6.72447	30	8.07949	28	6.25085	11	7.13579	27	6.81659
9	28	7.90768	77	6.40419	42	6.57688	21	7.97350	6	6.13815	42	7.12360	71	6.81151
10	71	7.85095	35	6.37718	11	6.46904	83	7.88076	81	6.13151	27	7.03151	22	6.77554
11	30	7.84941	11	6.33992	39	6.34349	12	7.80991	71	6.11955	13	6.99400	35	6.73012
12	33	7.70191	6	6.33274	40	6.29226	4	7.79032	11	6.11461	26	6.91387	33	6.70902
13	31	7.68644	12	6.31369	32	6.23233	3	7.73445	36	6.05975	21	6.89853	12	6.69618
14	45	7.53653	60	6.25779	22	6.16926	10	7.71486	80	6.03462	24	6.87297	4	6.66180
15	44	7.42720	80	6.22767	21	6.15854	28	7.70680	33	6.00942	6	6.80522	39	6.65795
16	20	7.41413	22	6.19003	38	6.15172	35	7.69412	82	5.93523	29	6.75608	28	6.62071
17	82	7.36256	9	6.13556	37	6.09656	29	7.68721	8	5.93241	34	6.72691	29	6.59000
18	39	7.34571	4	6.10065	13	6.07916	9	7.53744	3	5.92204	67	6.71122	1	6.58919
19	37	7.33471	20	6.09729	74	5.97590	14	7.51210	12	5.91489	35	6.67913	21	6.54134
20	32	7.32439	81	6.09302	73	5.90217	33	7.50979	2	5.91213	14	6.66401	82	6.46219
21	13	7.23369	1	6.09027	61	5.89920	15	7.45104	34	5.83779	3	6.63539	14	6.40584
22	4	7.20263	82	6.08021	12	5.86354	8	7.44412	37	5.83173	82	6.62904	13	6.34207

GROUP ITEM UTILITIES RANK ORDERED BY GROUP

	Belle Plaine						HLV						Average	
	Board		Community		Staff		Board		Community		Staff		(6 Groups)	
RANK	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL
23	40	7.19220	9	6.06218	19	5.85642	31	7.41302	29	5.82430	33	6.60631	81	6.36746
24	22	7.10160	36	6.04602	15	5.84353	2	7.39804	44	5.81471	71	6.58089	36	6.36084
25	15	7.06962	65	6.04482	14	5.77628	80	7.38191	61	5.76848	80	6.53241	6	6.34388
26	72	7.06756	89	6.01309	17	5.75946	13	7.37154	31	5.76690	39	6.53131	15	6.32286
27	21	7.05776	73	5.99796	81	5.66127	17	7.36521	22	5.76319	2	6.46260	9	6.25549
28	12	7.05021	27	5.95982	16	5.62261	82	7.35138	72	5.71055	4	6.45041	26	6.24398
29	8	6.99587	29	5.94090	28	5.58009	6	7.33871	83	5.66486	44	6.44871	3	6.20168
30	9	6.93914	58	5.92554	5	5.51366	36	7.33971	40	5.64630	15	6.41668	37	6.18512
31	74	6.85199	28	5.91444	29	5.45258	81	7.28629	4	5.61068	36	6.40315	32	6.18214
32	58	6.84322	57	5.89862	82	5.41475	32	7.09735	76	5.59972	28	6.36439	44	6.16785
33	91	6.81176	38	5.86338	27	5.40281	19	7.01555	9	5.54562	1	6.33740	2	6.16190
34	1	6.74936	46	5.85562	19	5.39079	84	6.94528	79	5.52072	17	6.32440	90	6.12066
35	79	6.70655	21	5.79911	75	5.38759	59	6.89862	45	5.51925	32	6.30524	40	6.10955
36	10	6.69159	79	5.78650	6	5.36129	75	6.89689	18	5.47323	43	6.27511	42	6.02983
37	73	6.58999	76	5.78373	79	5.35939	79	6.99999	15	5.42631	25	6.26870	45	6.02629
38	46	6.57951	56	5.75599	63	5.24486	44	6.86578	58	5.38988	81	6.22092	19	5.90901
39	25	6.46416	54	5.75025	20	5.20551	16	6.83295	21	5.36059	8	6.14242	9	5.90081
40	19	6.39216	15	5.72999	57	5.14163	61	6.79205	54	5.33494	37	6.12875	74	5.89681
41	59	6.34812	74	5.70421	35	5.13193	58	6.78802	62	5.33116	19	6.06280	73	5.88212
42	17	6.31821	33	5.70222	80	5.08835	26	6.71198	57	5.26780	40	6.02923	58	5.83022
43	42	6.29993	64	5.70217	24	5.08075	73	6.66203	7	5.24605	38	6.01827	17	5.80373
44	60	6.19418	13	5.68001	65	5.07356	74	6.67031	39	5.21359	45	5.99599	93	5.79549

GROUP ITEM UTILITIES RANK ORDERED BY GROUP

	Belle Plaine						HLV						Average	
	Board		Community		Staff		Board		Community		Staff		(6 Groups)	
RANK	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL
45	5	6.09902	37	5.67590	2	5.02364	5	6.66820	32	5.20357	61	5.89050	79	5.78482
46	6	6.08716	31	5.61325	3	5.01266	56	6.62270	46	5.16099	77	5.79059	39	5.76912
47	57	6.02476	44	5.60294	64	4.98431	24	6.61002	19	5.15471	46	5.77344	46	5.76703
48	55	5.98453	42	5.59145	8	4.95588	46	6.57256	55	5.12080	16	5.74577	61	5.75094
49	56	5.94843	83	5.54696	44	4.94775	76	6.56692	94	5.09647	9	5.72690	57	5.71891
50	65	5.90665	78	5.49216	66	4.78097	60	6.51613	14	5.01127	76	5.67778	10	5.67273
51	16	5.84941	14	5.48477	23	4.75003	39	6.49827	56	5.00710	83	5.65031	5	5.61326
52	26	5.84631	47	5.47985	41	4.74721	57	6.48502	13	4.99203	54	5.65397	56	5.60033
53	38	5.73732	30	5.46112	26	4.73694	71	6.46889	10	4.98463	56	5.63757	54	5.59144
54	54	5.67715	19	5.44804	54	4.72451	45	6.45104	59	4.97706	5	5.58821	77	5.56852
55	41	5.58776	10	5.40235	83	4.69272	40	6.44643	78	4.93419	57	5.49566	76	5.57606
55	64	5.55235	34	5.34832	76	4.67562	54	6.40793	25	4.92956	74	5.49547	16	5.56789
57	67	5.48479	84	5.34366	56	4.66617	72	6.39055	1	4.88802	10	5.45233	24	5.52983
58	3	5.46209	55	5.29371	46	4.66022	23	6.36866	42	4.75064	73	5.41505	59	5.42494
59	90	5.45900	75	5.18845	58	4.65386	53	6.15553	60	4.73328	58	5.38080	25	5.34134
60	66	5.45126	5	5.18006	77	4.62083	37	6.04320	67	4.70655	23	5.35924	55	5.30929
61	2	5.44095	16	5.12845	55	4.43373	25	6.01325	73	4.70549	41	5.23632	60	5.26581
62	75	5.42290	61	5.08940	45	4.22385	66	6.00979	74	4.68278	59	5.19601	75	5.18511
63	84	5.38319	63	5.06603	36	4.16736	77	5.95953	5	4.63043	55	5.10733	84	5.17526
64	63	5.27127	40	5.05067	78	4.10687	55	5.90956	53	4.62168	60	4.81691	65	5.11669
65	24	5.17432	7	5.01620	84	3.96640	42	5.83641	24	4.53834	64	4.77827	63	4.96252
66	76	5.15266	66	4.96291	25	3.99962	62	5.62846	52	4.52875	63	4.69290	64	4.94471

GROUP ITEM UTILITIES RANK ORDERED BY GROUP

	Belle Plaine						MLV						Average	
	Board		Community		Staff		Board		Community		Staff		(6 Groups)	
RANK	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL	ITEM	UTIL
67	03	5.12120	32	4.92744	10	3.79062	38	5.62442	63	4.48828	62	4.66844	41	4.87888
68	61	5.06601	24	4.90261	51	3.62038	7	5.48819	51	4.30730	51	4.60035	23	4.87046
69	47	4.93611	23	4.87117	43	3.56488	41	5.32431	16	4.22818	65	4.56483	67	4.86356
70	7	4.90562	17	4.86387	9	3.50019	51	5.21774	17	4.22157	79	4.44577	43	4.83544
71	78	4.89830	67	4.80923	60	3.16156	63	5.16187	65	4.20754	75	4.33092	66	4.59935
72	62	4.67406	68	4.78901	59	3.11674	43	5.10253	47	4.17436	94	4.31656	79	4.59878
73	43	4.61750	53	4.77562	47	3.02600	67	5.06336	64	4.02226	53	4.23733	7	4.51136
74	52	4.54977	41	4.67126	50	2.96045	52	5.03744	75	3.88392	52	4.22376	53	4.49810
75	23	4.53894	51	4.57157	53	2.88952	65	4.91475	43	3.80552	47	4.01146	62	4.40403
76	77	4.40382	52	4.54753	52	2.72386	64	4.84689	41	3.70642	78	3.85197	47	4.31608
77	53	4.30892	25	4.48372	7	2.64996	78	4.50922	70	3.67393	7	3.76214	52	4.26852
78	48	3.77978	69	4.47665	67	2.40620	47	4.26671	50	3.37741	66	3.02543	51	4.24560
79	66	3.70552	43	4.44711	68	2.40044	50	4.04263	66	3.36594	69	2.96444	50	3.25352
80	70	3.68489	70	4.43935	62	2.37467	70	2.59332	23	3.33475	70	2.94068	68	3.17074
81	49	3.55647	50	3.82608	69	2.30621	68	2.24539	68	3.22619	68	2.65788	70	3.14700
82	69	3.29190	62	3.74740	49	1.78091	49	2.19700	69	2.95986	50	2.49763	69	2.91728
83	51	3.15627	49	2.82644	48	1.56742	48	2.01440	48	2.60358	49	2.19061	49	2.44080
84	50	2.81692	48	2.59054	70	1.54981	69	1.50461	49	2.09349	48	1.70920	48	2.37749

APPENDIX IV.B.

GROUP ITEM UTILITIES ARRANGED BY SURVEY ITEM NUMBER

GROUP ITEM UTILITIES ARRANGED BY SURVEY ITEM NUMBER

	Belle Plaine						HLV						Average	
	Board		Community		Staff		Board		Community		Staff		(6 Groups)	
ITEM	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL
1	34	6.74936	21	6.09027	3	7.25872	6.0	8.21141	57	4.89802	33	6.33740	18	6.58919
2	61	5.44095	3	6.73406	45	5.02364	24.0	7.39804	20	5.91213	27	6.46260	33	6.16190
3	58	5.46209	6	6.44345	46	5.01266	13.0	7.73445	18	5.92204	21	6.63539	29	6.20168
4	22	7.20268	18	6.10065	7	6.81606	12.0	7.79032	31	5.61068	28	6.45041	14	6.66180
5	45	6.09902	60	5.18006	30	5.51366	45.0	6.66920	63	4.63043	54	5.58821	51	5.61326
6	46	6.08716	12	6.33274	36	5.36129	29.5	7.33871	9	6.13815	15	6.80522	25	6.34388
7	70	4.90562	65	5.01620	77	2.64996	68.0	5.46819	43	5.24605	77	3.76214	73	4.51136
8	29	6.99587	23	6.06219	49	4.95589	22.0	7.44412	17	5.93241	39	6.14242	27	6.25548
9	30	6.93914	17	6.15556	70	3.50019	18.0	7.53744	33	5.54562	49	5.72690	39	5.90081
10	36	6.69159	55	5.40235	67	3.79062	14.0	7.71486	53	4.98463	57	5.45233	50	5.67273
11	3	8.15059	11	6.33982	10	6.46964	3.0	8.35023	12	6.11461	8	7.13578	2	7.09344
12	28	7.05621	13	6.31569	22	5.86354	11.0	7.80991	19	5.91489	7	7.21693	13	6.69619
13	21	7.23569	44	5.08001	18	6.07916	26.0	7.37154	52	4.99203	11	6.99400	22	6.39207
14	7	7.98659	51	5.48477	25	5.77628	19.0	7.51210	50	5.01127	20	6.66401	21	6.40584
15	25	7.06962	40	5.72994	24	5.84353	21.0	7.45104	37	5.42631	30	6.41668	26	6.32236
16	51	5.84941	61	5.12445	28	5.62261	39.0	6.83295	69	4.22818	48	5.74577	56	5.56789
17	42	6.31821	70	4.86387	26	5.75946	27.0	7.36521	70	4.22157	34	6.32440	43	5.80878
18	2	9.63290	9	6.41192	23	5.85642	2.0	8.38594	36	5.47323	5	7.39722	3	7.02625
19	40	6.38216	54	5.44804	34	5.39079	33.0	7.01555	47	5.15471	41	6.06280	39	5.90901
20	16	7.41413	19	6.09729	39	5.20551	1.0	8.41590	6	6.35148	3	7.70083	6	6.86419
21	27	7.05776	35	5.79911	15	6.15854	9.0	7.97350	39	5.36059	13	6.89853	19	6.54134
22	24	7.10160	16	6.14003	14	6.16926	4.0	9.29551	27	5.76319	6	7.25247	10	6.74534

GROUP ITEM UTILITIES ARRANGED BY SURVEY ITEM NUMBER

	Belle Plaine						MLV						Average
	Board		Community		Staff		Board		Community		Staff		(6 Groups)
ITEM	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL
23	75	4.53894	69	4.87117	51	4.75003	58.0	6.36866	80	3.33475	60	5.35924	68	4.87046
24	65	5.17432	68	4.90261	43	5.09075	47.0	6.61002	65	4.53834	14	6.87297	57	5.52983
25	39	6.46416	77	4.48372	66	3.88862	61.0	6.01325	56	4.92956	37	6.26870	59	5.34134
26	52	5.84631	5	6.67870	53	4.73694	42.0	6.71198	1	6.57605	12	6.91387	28	6.24394
27	6	8.01960	28	5.95982	33	5.40281	7.0	8.13076	4	6.35495	10	7.03151	8	6.81658
28	9	7.90768	31	5.91444	29	5.58009	15.0	7.70680	8	6.25085	32	6.36439	16	6.62071
29	8	7.91903	29	5.94090	31	5.45258	17.0	7.68721	23	5.82430	16	6.75608	17	6.59668
30	11	7.84941	53	5.46112	2	7.60820	8.0	8.07949	7	6.32268	2	7.74572	1	7.17717
31	13	7.68644	46	5.61325	5	6.99249	23.0	7.41302	26	5.76690	4	7.61155	7	6.83061
32	20	7.32439	67	4.92794	13	6.23233	32.0	7.09735	45	5.20557	35	6.30524	31	6.18214
33	12	7.70191	42	5.70222	8	6.72447	20.0	7.50979	15	6.00942	23	6.60631	12	6.70902
34	1	9.72254	56	5.34832	4	7.10491	5.0	8.29263	21	5.83779	17	6.72691	5	7.00551
35	5	8.07427	10	6.37718	41	5.13193	16.0	7.69412	3	6.42408	19	6.67913	11	6.73012
36	4	8.15008	24	6.04602	63	4.16736	29.5	7.33871	13	6.05975	51	6.40315	24	6.36084
37	19	7.33471	45	5.67580	17	6.09650	60.0	6.04320	22	5.83173	40	6.12875	30	6.18512
38	53	5.73752	33	5.86338	16	6.15172	67.0	5.62442	44	5.21359	43	6.01927	46	5.76812
39	18	7.34571	4	6.72966	11	6.34346	51.0	6.49827	2	6.49931	26	6.53131	15	6.65796
40	23	7.19220	64	5.05087	12	6.29226	55.0	6.44643	30	5.64630	42	6.02923	35	6.10955
41	55	5.58776	74	4.67125	52	4.74721	69.0	5.32431	78	3.70642	61	5.23632	67	4.87838
42	43	6.29996	48	5.59145	9	6.57088	65.0	5.83641	58	4.75064	9	7.12360	36	6.02983
43	73	4.61750	79	4.44711	69	3.50488	72.0	5.10253	75	3.80552	36	6.27511	70	4.63544
44	15	7.42720	47	5.60294	49	4.84775	38.0	6.86578	24	5.81471	29	6.44871	32	6.16785

GROUP ITEM UTILITIES ARRANGED BY SURVEY ITEM NUMBER

	Belle Plaine						HLV						Average	
	Board		Community		Staff		Board		Community		Staff		(6 Groups)	
ITEM	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL
45	14	7.53653	7	6.44107	62	4.22385	54	6.45104	35	5.51925	44	5.98598	37	6.02629
46	38	6.57951	34	5.85542	58	4.66022	48	6.57258	46	5.16099	47	5.77344	47	5.76703
47	69	4.93811	52	5.47985	73	3.02600	78	4.26671	72	4.17436	75	4.01145	76	4.31609
48	78	3.77978	84	2.59054	83	1.56742	83	2.01440	83	2.60358	84	1.70920	84	2.37749
49	81	3.55647	83	2.82644	82	1.78081	82	2.19700	84	2.09349	83	2.19061	83	2.44080
50	84	2.81692	81	3.82608	74	2.96045	79	4.04263	78	3.37741	82	2.49763	79	3.25352
51	83	3.15627	75	4.57157	68	3.62038	70	5.21774	68	4.30730	68	4.60035	78	4.24560
52	74	4.54977	76	4.54753	76	2.72386	74	5.03744	66	4.52875	74	4.22378	77	4.26852
53	77	4.30892	73	4.77562	75	2.88952	59	6.15553	64	4.62168	73	4.23733	74	4.49610
54	54	5.67715	39	5.75025	54	4.72451	56	6.40783	40	5.33494	52	5.65397	53	5.59144
55	48	5.98453	58	5.29371	61	4.43373	64	5.90956	48	5.12080	63	5.10733	60	5.30828
56	49	5.94843	38	5.75599	57	4.66617	46	6.62270	51	5.00710	53	5.63757	52	5.60633
57	47	6.02476	32	5.89862	40	5.14163	52	6.48502	42	5.26790	55	5.49566	49	5.71991
58	32	6.84322	30	5.92554	59	4.65386	41	6.78802	38	5.38988	59	5.38080	42	5.83022
59	41	6.34812	26	6.01309	72	3.11674	35	6.89862	54	4.97706	62	5.19601	58	5.42494
60	44	6.10418	14	6.25779	71	3.16156	50	6.51613	59	4.73828	64	4.81691	61	5.26581
61	68	5.06601	62	5.08940	21	5.89920	40	6.79205	25	5.76848	45	5.89050	48	5.75094
62	72	4.67406	82	3.74740	80	2.37467	66	5.62846	41	5.33116	67	4.66844	75	4.40403
63	67	5.12120	63	5.06603	38	5.24486	71	5.16187	67	4.48428	66	4.69240	65	4.96252
64	36	5.55235	43	5.70217	47	4.98431	76	4.64689	73	4.02226	65	4.77827	66	4.94771
65	50	5.90665	25	6.04462	44	5.07356	75	4.91475	71	4.20754	69	4.56483	64	5.11864
66	60	5.45126	66	4.96281	50	4.78097	62	6.00979	79	3.36584	78	3.02543	71	4.59935

GROUP ITEM UTILITIES ARRANGED BY SURVEY ITEM NUMBER

	Belle Plaine						HLV						Average
	Board		Community		Staff		Board		Community		Staff		(6 Groups)
ITEM	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL	RANK	UTIL
67	57	5.48479	71	4.80923	78	2.40620	73	5.06336	60	4.70655	18	6.71122	69	4.86356
68	79	3.70552	72	4.78901	79	2.40044	81	2.24539	81	3.22619	81	2.65788	80	3.17074
69	82	3.29190	79	4.47665	91	2.30621	84	1.50461	82	2.95986	79	2.96444	82	2.91728
70	80	3.68489	80	4.43935	84	1.54981	80	2.59332	77	3.67393	80	2.94068	81	3.14700
71	10	7.85095	2	6.99186	6	6.85691	53	6.46889	11	6.11955	24	6.58089	9	6.81151
72	26	7.06756	1	7.14307	1	7.64847	57	6.39055	28	5.71055	1	8.13270	4	7.01548
73	37	6.58999	27	5.99796	20	5.90217	43	6.68203	61	4.70549	59	5.41505	41	5.99212
74	31	6.85199	41	5.70421	19	5.97590	44	6.67051	62	4.58278	56	5.49547	40	5.89681
75	62	5.42290	59	5.18845	35	5.38759	36	6.89689	74	3.88392	71	4.33092	62	5.13511
76	66	5.15266	37	5.79373	56	4.67562	49	6.56692	32	5.59972	50	5.67778	55	5.57606
77	76	4.40382	9	6.40419	80	4.62083	63	5.95853	5	6.35201	46	5.79058	54	5.58832
78	71	4.69830	50	5.49216	64	4.10687	77	4.50922	55	4.93419	76	3.85197	72	4.59878
79	35	6.70655	36	5.78650	37	5.35939	37	6.88998	34	5.52072	70	4.44577	45	5.78482
80	59	5.45900	15	6.22767	42	5.08835	25	7.38191	14	6.03462	25	6.53241	34	6.12066
81	33	6.81176	20	6.09302	27	5.66127	31	7.28629	10	6.13151	38	6.22092	23	6.30740
82	17	7.36256	22	6.08021	32	5.41475	28	7.35138	16	5.93523	22	6.62904	20	6.46219
83	64	5.27127	49	5.54695	55	4.69272	10	7.99076	29	5.66496	51	5.65631	44	5.78548
84	63	5.38319	57	5.34366	65	3.96640	34	6.94526	49	5.09647	72	4.31656	63	5.17526

APPENDIX IV.C.

GENERAL STATISTICS AND CORRELATIONS
FOR GROUP ITEM UTILITIES TAKEN ACROSS ALL SURVEY ITEMS

GENERAL STATISTICS AND CORRELATIONS
FOR GROUP ITEM UTILITIES TAKEN ACCROSS ALL SURVEY ITEMS

VARIABLE*	N	MEAN	STD DEV	SUM	MINIMUM	MAXIMUM
B_B_UTIL	84	6.17706517	1.36470355	518.87347430	2.81691594	8.72253739
B_C_UTIL	84	5.54264062	0.81582156	465.58601223	2.59053662	7.14307252
B_S_UTIL	84	4.91880751	1.41431666	413.17983112	1.54980537	7.64847271
H_B_UTIL	84	6.45860421	1.49935285	542.52275346	1.50460829	8.41589862
H_C_UTIL	84	5.11749790	0.96079499	429.86982332	2.09349823	6.57605165
H_S_UTIL	84	5.70354036	1.35097674	479.09739021	1.70920216	8.13269761
AVE_UTIL	84	5.65303429	1.07805769	474.85488077	2.37748723	7.17776993

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0 / N = 84

	B_B_UTIL	B_C_UTIL	B_S_UTIL	H_B_UTIL	H_C_UTIL	H_S_UTIL	AVE_UTIL
B_B_UTIL	1.00000 0.0000	0.62741 0.0001	0.71225 0.0001	0.77030 0.0001	0.69029 0.0001	0.75992 0.0001	0.88565 0.0001
B_C_UTIL	0.62741 0.0001	1.00000 0.0000	0.59678 0.0001	0.65287 0.0001	0.75965 0.0001	0.66990 0.0001	0.79307 0.0001
B_S_UTIL	0.71225 0.0001	0.59678 0.0001	1.00000 0.0000	0.69734 0.0001	0.56275 0.0001	0.74852 0.0001	0.84576 0.0001
H_B_UTIL	0.77030 0.0001	0.65287 0.0001	0.69734 0.0001	1.00000 0.0000	0.75845 0.0001	0.80163 0.0001	0.90922 0.0001
H_C_UTIL	0.69029 0.0001	0.75965 0.0001	0.56275 0.0001	0.75945 0.0001	1.00000 0.0000	0.76337 0.0001	0.84828 0.0001
H_S_UTIL	0.75992 0.0001	0.66990 0.0001	0.74852 0.0001	0.80163 0.0001	0.76337 0.0001	1.00000 0.0000	0.91655 0.0001
AVE_UTIL	0.88565 0.0001	0.79307 0.0001	0.84576 0.0001	0.90922 0.0001	0.84828 0.0001	0.91655 0.0001	1.00000 0.0000

*B-B-UTIL = Belle Plaine Board Group Item Utility
H-B-UTIL = HLV Board Group Item Utility
AVE-UTIL = Average of the above 6 Group Item Utilities

B-C-UTIL = Belle Plaine Community Group Item Utility
H-C-UTIL = HLV Community Group Item Utility
B-S-UTIL = Belle Plaine Staff Group Item Utility
H-S-UTIL = HLV Staff Group Item Utility

APPENDIX V

ALTERNATIVE UTILITY CALCULATION METHODS

The study to which this is an appendix was what has been called Group Item Utility. However, the general formula for utility given in section 5 of the study would allow for different approaches to utility calculation each depending upon the way in which one estimates the R_j (attitude importance), which defines the W_j (importance weightings) and the V_j (benefit ratings), as well as the way in which these values are applied to the formula. Although Group Item Utility seemed most relevant for the purpose of this study, two alternative approaches to utility might have been taken - namely, what shall be referred to as Crossed Group Item Utility and Mean Individual Item Utilities.

Crossed Group Item Utilities are calculated in the same fashion as the Group Item Utilities used in the study except that the mean attribute importance ratings used are for a different group than the mean benefit ratings which they are combined with in calculating the utilities. For example, the W_j obtained from the community sample might be used in combination with the V_j obtained from the staff group to obtain a crossed group item utility, crossing community with staff. The rationale for such a utility would be that the community is more qualified to specify what is important for the district, whereas the professional school staff is more qualified to specify what potential benefit a sharing alternative might have in a district. On the other hand one might agree that the community should specify the importance ratings and the school board should specify benefit ratings, or that the school boards should specify importance, and the staff should specify benefit. Obviously, there are several different combinations, many of which could be considered reasonable in any given circumstance. In the present study the three types of crossed

group item utilities just mentioned might seem reasonable - namely, community crossed with staff, community crossed with board, board crossed with staff. However, since it has now been determined that community and board attribute importance ratings do not significantly differ (recall figure 2), and moreover considering the level of general agreement between groups regarding the overall survey wide ranking of all 84 sharing alternatives (recall Appendix IV.C.), it would be rather difficult in this case to obtain a substantially different picture than that which has already been gained by examining Group Item Utilities. Therefore, it is encouraging to note that if in this study Crossed Group Item Utilities were used, essentially the same basic ranking of sharing alternatives might be expected to result with only minor differences.

Mean individual Item Utilities are calculated using the W_j based upon each individual's R_j in combination with that same individual's V_j to obtain a utility for each individual and then averaging these utilities for the various groups of interest. Generally given anything but rather unusual distribution of importance and benefit ratings for the various groups considered, this type of utility is expected to yield almost exactly the same ranking of items as the Group Item Utility used. Indeed in this study the correlations between these two types of utility were generally in the .98 to 1.00 range. Thus the same picture of which sharing alternatives offer the greatest potential as well as the least potential would have been presented using this alternate type of utility in this study.